



REPORT

ON THE

Health of the County Borough of Bootle
for the Year 1904,

BY

W. NAYLOR BARLOW,

M.R.C.S. (ENG.), L.R.C.P. (LOND.), D.P.H. (CAMB).

Medical Officer of Health of the Borough.

Medical Superintendent of the Corporation Hospital for Infectious Diseases.

Surgeon to the Police Force and Fire Brigade.



BOOTLE:

BOOTLE PRINTING AND PUBLISHING CO., LTD.

Trade Union Printers.

1905.

HEALTH COMMITTEE

OF THE

BOOTLE TOWN COUNCIL,

1904-5.

*Mr. ALDERMAN CAIN, J.P., Chairman.

*Mr. ALDERMAN WILD, M.D., J.P., Deputy-Chairman.

*Mr. ALDERMAN ROBERTS, L.R.C.P.
(Edin.)

Mr. COUNCILLOR BARBOUR.

Mr. COUNCILLOR T. BELL.

*Mr. COUNCILLOR CARRUTHERS.

*Mr. COUNCILLOR DUTHIE.

*Mr. COUNCILLOR ELLISON.

*Mr. COUNCILLOR McCORMACK, M.R.C.S.

*Mr. COUNCILLOR PEARSON, M.R.C.S.

Mr. COUNCILLOR RUTHERFORD.

Mr. COUNCILLOR SHORT.

AND

HIS WORSHIP THE MAYOR (Mr. Councillor O. K. Jones).

* Members of the Hospital Sub-Committee.

Officials of the Public Health Department.

Medical Officer of Health:

W. NAYLOR BARLOW, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H. (Camb.)

Assistant Medical Officer of Health and Inspector of Nuisances:

W. DALEY, L.R.C.P., L.R.C.S. (Edin.), D.P.H. (Lond.)

Inspectors under the Food and Drugs Act:

W. DALEY.	|	*R. J. McCULLOCH.
-----------	--	-------------------

Sanitary Staff:

*R. J. McCULLOCH.	|	*H. V. SMITH.
H. OWENS.	|	J. LOBB (Disinfecting Workman).
J. WALL.		

Clerical Staff:

F. McBREARTY.	|	W. DUNN.
---------------	--	----------

Lady Sanitary Inspector:

*Miss H. H. LAWRENCE.

Those marked * are Certified Inspectors.

CONTENTS.

	PAGE		PAGE
Alcoholism	35—36	Infectious Diseases	16—24
Bakehouses	41	Smallpox	17
Births	9—11	Scarlet Fever	17—19
Cowsheds and Milkshops	41—42	Diphtheria	19—20
Deaths	11—14	Typhoid Fever	20
„ Zymotic	16	Measles... ..	21—23
Diarrhœa	24—32	Whooping Cough	23—24
Disinfection	55—56	Offensive Trades	36
Drain Testing	36	Phthisis	32—35
Factory and Workshop Act	37—41	Sanitary Work—	
Food and Drugs—		Details of	49—54
Inspection of Shops	37, 54	Slaughter Houses	37
Report on Samples	57	Street List	61—70
Hospital Report	43—47	Sub-let Houses	37
Infant Mortality	14—15	Tables	58—60
		Water Analyses	48

Ward map with statistics at end of report.

HEALTH DEPARTMENT,
TOWN HALL.

*To the Mayor, Aldermen and Councillors
of the County Borough of Bootle.*

GENTLEMEN,

I have the honour to present to you my fourth Annual Report on the health of the Borough, in compliance with the requirements of the Local Government Board.

The Report contains the vital statistics for the year and the details of the work carried out by this department. It will be seen that the Infant Mortality figure is still very high, and this is the most unsatisfactory feature with which the Report deals. In this connection I may perhaps be permitted to refer you especially to page 30, where, with a view to the prevention of deaths from Summer Diarrhœa, by disseminating knowledge with respect to the feeding of children, I again advocate, as I advocated last year, the teaching of Elementary Hygiene in the schools.

The Staff of my department have worked intelligently and well during the year, and they can look back with satisfaction upon a large amount of useful and necessary work efficiently performed.

In conclusion, I wish to thank the Chairman and Members of the Health Committee for the kindness and courtesy with which they have always treated me, and for the consideration they have invariably given to my suggestions.

I am, Gentlemen,

Your obedient servant,

W. N. BARLOW.

STATISTICAL SUMMARY FOR 1904.

Area in Acres	...	...	...	...	...	1,576
Estimated Population, June, 1904	...	...	...	...	...	62,000
Population per Acre	...	...	...	...	...	39
No. of Houses in Borough	...	...	...	...	...	11,317
Rateable Value	...	...	...	...	...	£527,143
1d. in the £ yields for general purposes	...	...	...	...	...	£1,500
No. of persons per house at time of last Census	...	...	...	...	...	5·8
Birth Rate per 1,000 living	...	...	...	...	...	30·9
Death Rate	„	...	...	...	...	18·6
Infantile Mortality per 1,000 births	...	...	...	...	...	180
Percentage of uncertified deaths	...	...	...	...	...	3·3
Total deaths from Diarrhœa	...	...	...	...	...	109
Diarrhœa Mortality per 1,000 births	...	...	...	...	...	51
Phthisis Death Rate per 1,000 living	...	...	...	...	...	1·6
Respiratory	„	„	...	...	...	3·8
Registrar General's Factor for correction of gross Death Rate	...	...	...	...	...	1·105

BOROUGH OF BOOTLE.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

HEALTH COMMITTEE.

POPULATION.

The estimated population of Bootle in June, 1904, was roughly 62,000.

The area of the Borough is 1,576 acres.

The population shown by the last three Census returns has been :—

1881.		1891.		1901.
27,874	...	49,217	...	58,556

The population is estimated on the assumption that the rate of annual increase since the last census has been the same as that obtaining between the last two intercensal periods. This is the method adopted by the Registrar General in estimating the populations of different places for his annual and weekly returns, but it is a method which does not always give accurate results.

For the purpose of checking the estimate worked out by this method, and of obtaining the population of each ward, I caused a census to be taken of all the inhabited houses in the Borough, and multiplied the numbers thus obtained by the actual population per house as shewn by the last census returns.

The results obtained were as follow :—

Ward.	Occupied Houses.	Population per house calculated to 3 places of decimals.			Estimated Population.
Derby	2,242	...	5·388	...	12,079
Stanley	1,895	...	6·003	...	11,375
Mersey	2,110	...	6·733	..	14,208
Knowsley.....	2,036	...	5·783	...	11,775
Linacre	2,570	...	5·298	...	13,615
					<hr/>
					63,052
					<hr/>

This latter estimate is much more likely to be correct, since the population per house has not in all probability changed since the census was taken (there being only a difference of 0·1 between the population per house in the 1891 census and that in 1901) and the number of houses inhabited may be taken as accurate. In order to prevent confusion, however, I have accepted the Registrar General's estimate and have used it in calculating the different rates.

Of course the effect of using the higher, and probably the correct, estimate of the population would be to considerably diminish all the rates of mortality, and show the Borough in a more favourable light from a public health point of view than the figures which follow would indicate.

Table shewing Houses certified for habitation since the census :—

Year.		Derby.	Stanley.	Mersey.	Knowsley.	Linaerc.	Total.						
April 1901—April 1902	...	110	...	—	...	8	...	—	...	169	...	277	
„ 1902	„ 1903	...	123	...	28	...	—	...	—	...	88	...	239
„ 1903	„ 1904	...	89	...	24	...	4	...	30	...	134	...	281
„ 1904	„ 1905	...	133	...	69	...	4	...	1	...	132	...	339

The population per house at the last census was 5·8.

From the number of new houses built it would also seem probable that the population of the Borough had increased more than is estimated by the Registrar General.

The following table gives the area of each ward:—

	Area excluding Dock Estate.		Area including Dock Estate.
Derby	451 acres.	...	451 acres.
Stanley.. . . .	235 „	...	235 „
Mersey	174 „	...	312 „
Knowsley	176 „	...	306 „
Linacre.....	203 „	...	272 „
	<hr/>		<hr/>
	1,239		1,576
	<hr/>		<hr/>

Population of the Borough at the undermentioned age periods on an estimated population of 62,000:—

Under 1 year...	...	...	...	1,717
1 year and under 5	...	...	...	5,933
Total under 5	..	...	—	7,650
5 years and under 15	...	...	..	13,384
15 „ „ 25...	...	...	...	12,708
25 „ „ 45...	...	...	..	17,687
45 „ „ 65..	...	...	..	8,942
65 „ and upwards....	...	...	...	1,629
				<hr/>
				62,000
				<hr/>

BIRTHS.

The number of children born in Bootle during 1904 was 1918—986 males, 932 females.

The birth rate is therefore 30·93 per 1,000, which is 3·0 in excess of that of England and Wales.

The following table shows the number of births in each of the four quarters of the year, and their distribution among the different wards:—

Ward.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Derby.....	98	84	107	86	375
Stanley.....	61	55	72	76	264
Mersey.....	109	114	108	96	427
Knowsley.....	119	104	98	103	424
Linacre.....	110	102	121	95	428
<hr/>					
Entire Borough.....	497	459	506	456	1,918

The number of illegitimate births was 27 or 1·4 per cent of the total number of births, a small percentage. They were divided among the wards as follows:—

Derby.	Stanley.	Mersey.	Knowsley.	Linacre.
9	3	4	5	6
2·4%	1·1%	0·9%	1·1%	1·4% of total births
in each ward.				

Table shewing natural increase or decrease of the population, *i.e.*, the increase or decrease in the number of births over deaths in the different wards:—

Ward.	Births.	Deaths.	Excess of Births over Deaths.	Excess of Deaths over Births.
Derby.....	375	196	179	—
Stanley.....	264	154	110	—
Mersey.....	427	344	83	—
Knowsley.....	424	272	152	—
Linacre.....	428	188	240	—
<hr/>				
Entire Borough.....	1,918	1,154	764	—

Since density of population is a very important factor in determining the various death rates and the incidence of infectious diseases, I will now give two tables which show how Bootle compared in this respect at the time of the last census with other Lancashire towns.

CHART SHOWING BIRTH RATE OF BOOTLE
— SINCE 1891.—

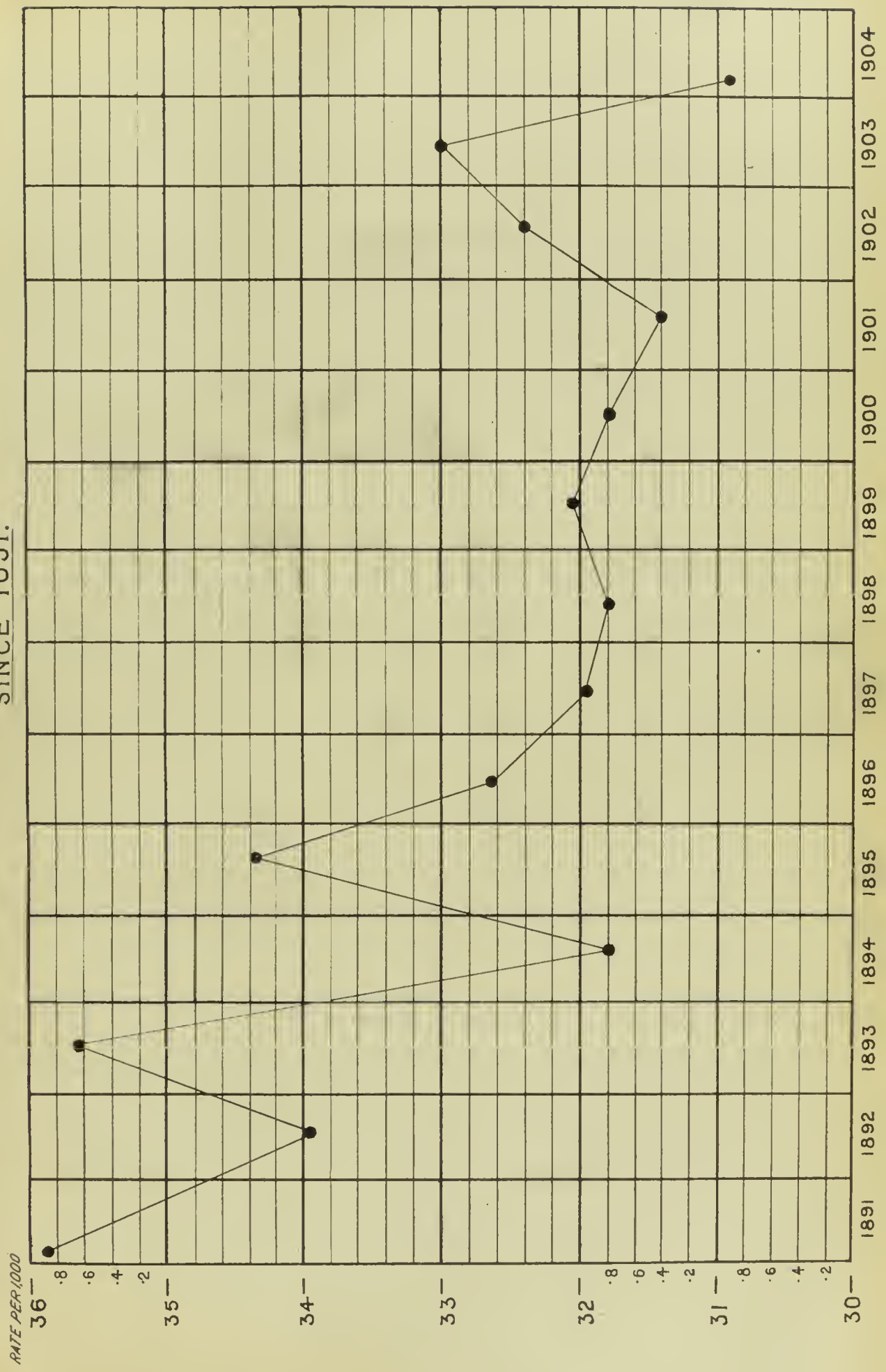


TABLE SHOWING DISTRIBUTION OF POPULATION PER HOUSE IN THE VARIOUS
LANCASHIRE TOWNS OF OVER 50,000 INHABITANTS.

Towns.	Population.	Total Tenements.	Number of tenements let in 1 Room.	Percentage to total Tenements	Number of tenements let in 2 rooms.	Percentage to total Tenem'ts	Percentage of pop'n living in 1 room.	Percentage of pop'n living in 2 rooms.	Average population per house.
Barrow	57,584	10,313	136	1·3	1,260	12·0	·6	8·5	6·7
Blackburn.....	127,527	27,566	129	·4	258	·8	·2	·4	4·6
Bootle	58,558	11,247	476	4·2	833	7·4	2·0	4·7	5·8
Bolton.....	168,205	36,177	105	·2	1,691	4·7	·1	3·2	4·6
Burnley	97,044	21,279	351	1·6	1,527	7·0	·6	·5	4·5
Bury	58,028	12,800	61	·4	635	4·0	·2	3·2	4·6
Liverpool	684,947	138,845	8,527	6·1	11,935	8·0	2·7	5·9	5·5
Manchester....	543,969	112,854	2,140	1·8	6,869	6·0	·7	4·1	5·0
Oldham.....	137,238	30,058	99	·3	1,773	5·0	·1	4·1	4·5
Preston.....	112,982	24,341	30	·1	207	·8	·05	·4	4·6
St. Helens....	84,410	15,390	64	·4	658	4·0	·1	3·0	5·6
Rochdale.....	83,112	20,233	127	·5	3,168	15·0	·2	11·0	4·1
Salford	220,946	45,541	807	1·7	3,491	7·0	·7	5·4	5·0
Warrington...	64,242	12,381	8	·06	452	3·0	·02	1·9	5·2
Wigan.....	60,770	11,421	22	·1	871	7·0	·08	5·1	5·4

N.B.—These figures are taken from the Census Returns.

DEATHS.

The deaths of non-residents who died in the Borough (32 in number), principally in the Borough and Linacre Hospitals, are excluded, while the deaths in the workhouses of the West Derby Union of people who are said to be Bootle residents (135 in number) are included. There is no doubt that the only claim which many of the last-mentioned class have to be styled Bootle residents lies in the fact that they slept in the Borough immediately prior to their admission to the workhouse. These deaths materially increase the death rate.

In considering the rates of mortality for Bootle, it must be remembered that the town does not contain within its boundaries large areas sparsely populated, where many of the healthy and wealthy classes reside. These areas always have low rates of mortality, which have the effect of lowering the general rates of a town, the more densely populated parts of a town having correspondingly higher rates. Bootle is densely populated in every part except one small portion.

The total number of deaths during the year was 1,154 (589 males, 565 females), equal to a death rate of 18·61 per 1,000.

Table showing number of deaths in each Ward :—

Ward.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Derby.....	51	46	54	45	196
Stanley.....	32	30	47	45	154
Mersey.....	92	78	110	64	344
Knowsley.....	67	52	88	65	272
Linacre.....	43	35	65	45	188
Entire Borough	285	241	364	264	1,154

Occasionally during the past year a certain amount of alarm has been caused by the fact that in one or two weeks Bootle has occupied a high place in the list of the great towns the death rates of which are published weekly by the Registrar General.

In towns of the size of Bootle great variations in the Death Rate may be expected, especially when taken for such short periods of time as one week, as the following table will show :—(*See Chart opposite*).

CHART SHOWING NUMBER OF DEATHS EACH WEEK IN 1904, ALSO THE NUMBER OF DEATHS FROM ZYMOTIC DISEASES,
AND FROM EPIDEMIC DIARRHOEA.

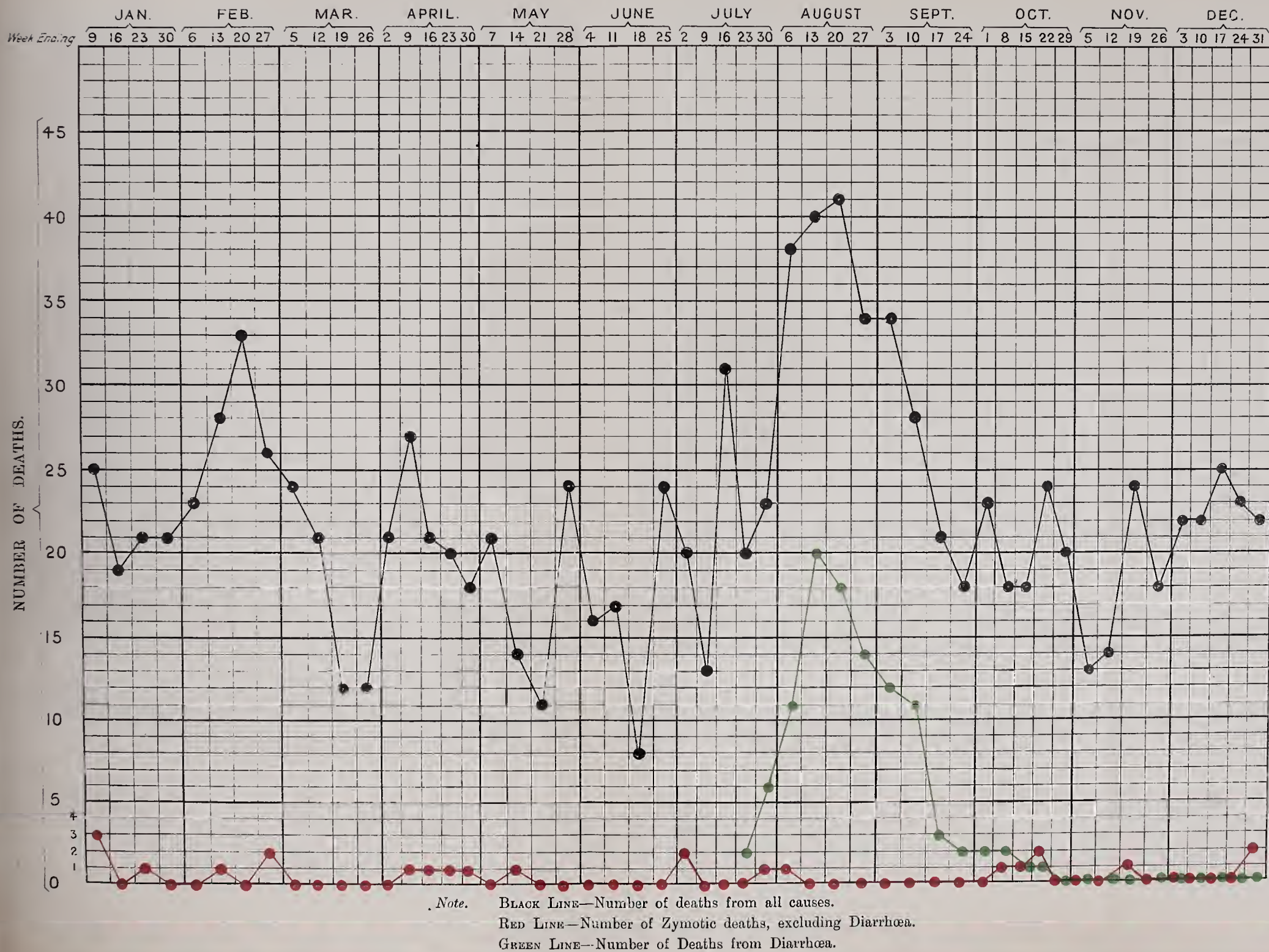


TABLE SHEWING THE PRINCIPAL POINTS IN THE VITAL STATISTICS OF BOOTLE COMPARED WITH OTHER
LARGE TOWNS IN THE NORTH-WESTERN DISTRICT OF ENGLAND.

	Crude Death Rate.	Corrected Death Rate.	Birth Rate.	Infantile Deaths per 1,000 births.	Deaths per 1,000 persons living from							Comparative Mortality Figure.
					Smallpox	Measles	Scarlet F.	Diph.	Wh'g Cough.	Enteric.	Phthisis.	
Birkenhead.....	19.8	21.2	33.1	...	.008	.85	.17	.17	.72	.11	1.5	1,309
Wallasey.....	16.0	17.5	29.4	157	.00	.56	.14	.21	.73	.12	.89	1,084
Liverpool.....	21.9	23.4	33.5	196	.002	.96	.20	.27	.58	.11	.70	1,444
Bootle.....	18.6	20.5	30.9	180	.00	.77	.20	.25	.66	.04	.61	1,269
St. Helens.....	20.3	22.1	37.3	174	.03	1.4	.17	.24	.55	.12	1.5	1,364
Wigan.....	19.4	21.4	34.5	188	.01	.35	.17	.04	.52	.24	1.08	1,326
Warrington.....	19.4	21.0	32.7	171	.05	.53	.75	.05	1.25	.04	1.1	1,296
Bolton.....	16.9	19.1	26.9	167	.005	.09	.12	.16	.76	.21	1.2	1,180
Bury.....	17.1	19.2	23.6	163	.03	.46	.17	.12	.72	.12	1.6	1,185
Salford.....	21.0	23.2	31.7	193	.01	1.1	.24	.50	.60	.20	1.9	1,433
Oldham.....	18.3	20.6	24.9	155	.10	.50	.16	.24	.26	.16	1.3	1,272
Blackburn.....	17.2	19.4	23.5	191	.00	.45	.09	.08	.72	.15	.94	1,197
Preston.....	17.8	19.5	28.2	183	.05	.74	.06	.18	.25	.25	1.0	1,205
Barrow.....	12.0	...	27.9	122	.00	.02	.16	.04	.25	.07	.6	—
Stockport.....	19.9	21.5	26.6	201	.15	.68	.23	.16	.06	.12	1.1	1,330

The terms "Corrected Death Rate" and "Comparative Mortality Figure" in the preceding table need some explanation.

It is well-known that the greatest mortality takes place among persons at the extremes of life, viz., the very young and the very old. Towns, therefore, which have a larger proportion than normal of people in the middle ages of life, *i.e.*, people among whom mortality is slight, show a low death rate compared with towns which have an unusually large proportion of children and old people. The sex distribution of the people also varies greatly in different places, and the rate of mortality also varies in the sexes.

By methods into which it is not necessary to enter here, the Registrar General has calculated a factor by means of which the age and sex distribution of any place is made similar to that prevailing in the whole of England and Wales. The corrected Death Rate is the rate obtained after making this allowance for age and sex distribution, and is therefore the best rate to be used for comparative purposes.

The Comparative Mortality figure shows the number of deaths which would occur in any given place compared with 1,000 which takes place in England and Wales taken as a whole, *e.g.* the Comparative Mortality figure for Bootle 1,269, means that for every 1,000 people who die in England and Wales as a whole, 1,269 die in Bootle.

INFANT MORTALITY.

During the year 1904, 346 children died who had, at the time of their deaths, not reached one year of age.

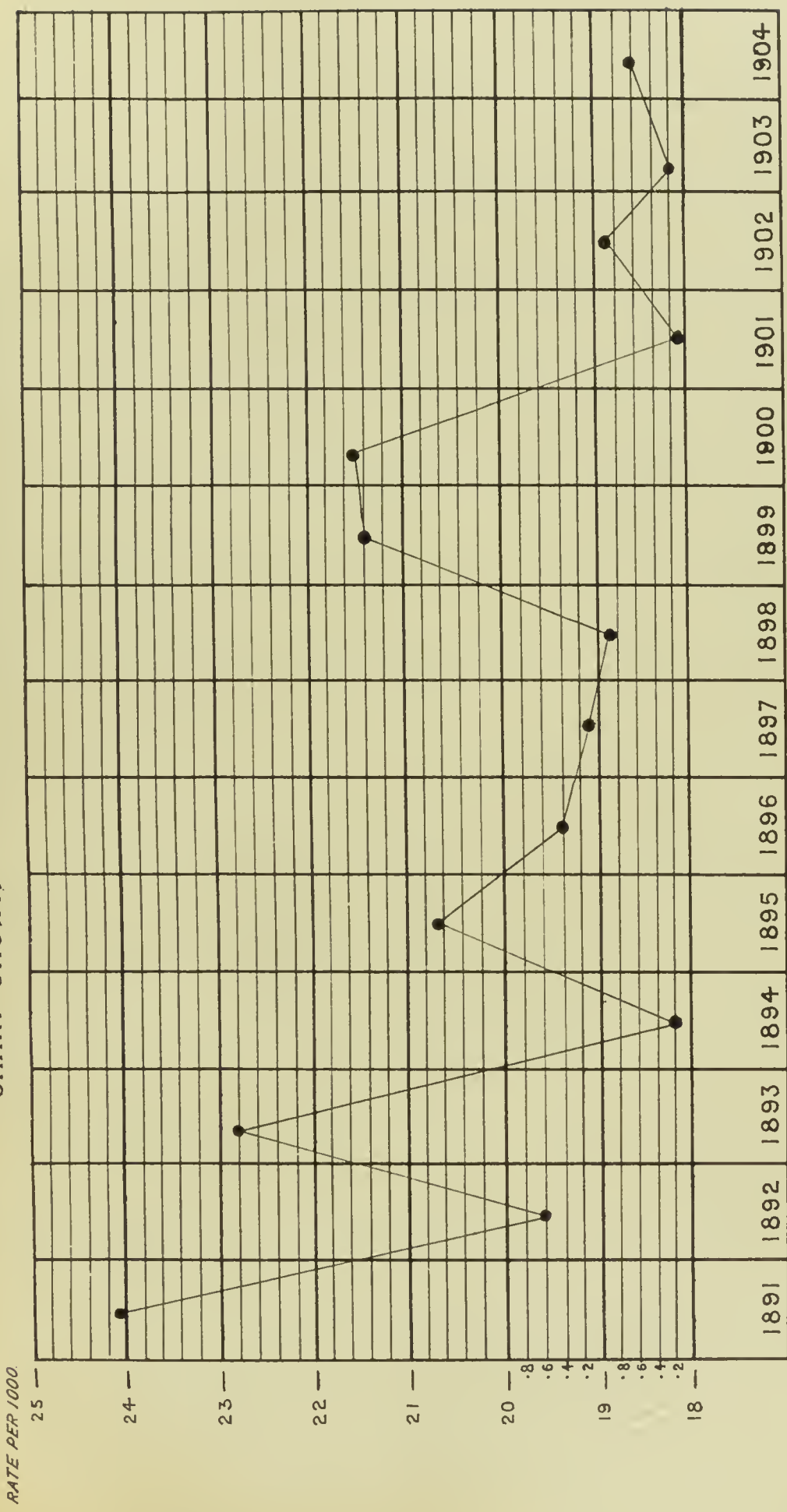
This gives an Infant Mortality Rate of 180 per 1,000 Births.

Generally speaking, an Infantile Mortality Rate of about 100 may be considered normal. All children born cannot be expected to survive.

Some are born prematurely, others are malformed, others are born of alcoholic and weakly parents, and readily fall victims to the first serious ailments which may attack them.

Infant mortality rates, although usually included in the figures which are supposed to indicate the healthiness or otherwise of a district, depend to my mind far more upon such conditions as the following than upon general sanitation, viz.: (1) The general character of the occupation of the working

CHART SHOWING DEATH RATE OF BOOTLE SINCE 1891.



classes (casual or permanent) ; (2) The amount of female labour employed ; (3) The care bestowed upon the feeding of children ; (4) A high birth rate. The rate of Infantile Mortality is therefore more an indication of the social well-being of the people.

The causes mainly contributing to an excessive rate of infant mortality may be briefly summarized as follows :—

- (1) Carelessness and ignorance on the part of parents, as to the rearing of children.
- (2) The artificial feeding of infants with improper food and the use of unsuitable feeding bottles.
- (3) Under feeding.
- (4) Excessive feeding.
- (5) Positive neglect of children and their ailments.
- (6) Inherited constitutional conditions.
- (7) Untrained midwifery.
- (8) Infant insurance.

For the past 12 years our Infantile Mortality Rates have been :—

1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
197	157	183	184	199	183	186	204	183	154	161	180

The Rates in the different Wards for the past 4 years are :—

	1901.	1902.	1903.	1904.
Derby	127	127	151	152
Stanley	127	113	197	162
Mersey	277	199	166	234
Knowsley	194	163	168	183
Linacre	145	150	136	158

Table showing influence of Summer Diarrhœa on Infantile Mortality :—

	No. of deaths of children under 1 year.		
1st Quarter...	60
2nd Quarter	62
3rd Quarter	154 (Summer Diarrhœa prevalent.)
4th Quarter	70

ZYMOTIC DEATH RATE.

Table showing number of deaths from Zymotic diseases since 1896 :—

	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904
Smallpox	...	—	...	—	...	—	...	4	.. 6
Scarlet Fever...	20	...	12	...	10	...	17	...	16
Diphtheria	...	7	...	5	...	8	...	10	...
Measles	...	31	...	14	...	7	...	6	...
Whooping Co'gh	15	...	14	...	28	...	21	...	56
Enteric	...	24	...	20	...	17	...	10	...
Typhus	...	—	...	—	...	7	...	1	...
Diarrhœa	...	72	...	153	...	114	...	46	...
	...	139	...	113	...	56	...	85	...
Total	...	169	...	218	...	191	...	104	...
Rate per 1,000	3.1	...	3.9	...	3.4	...	1.8	...	4.5
	...	2.8	...	2.7	...	2.5	...	3.7	...

INFECTIOUS DISEASES.

The number of infectious diseases notified during 1904 shows a gratifying decrease over those notified during the previous year.

A reference to the table on page 17 shows a decrease of 85 in the number of cases of Scarlet Fever and a decrease of no less than 39 in the number of cases of Enteric.

Diphtheria shows an increase of 15 cases.

For further information regarding the number of cases of Infectious Disease notified during the year, and the Wards in which the cases occurred see page 59.

The following table shows number of notifications in each quarter of the year, 1904 :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Smallpox	0	...	0
Scarlet Fever	55	...	52
Diphtheria	17	...	14
Enteric Fever	2	...	2
Continued Fever	1	...	0
Typhus Fever	0	...	0
Erysipelas	8	...	13
Puerperal Fever	0	...	0
Phthisis...	8	...	14
Totals..	91	...	95
	114	...	118
	418	...	...

Table showing number of notifications of Infectious Disease since 1896.

	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.
<i>Population</i>	53,710	54,630	55,550	56,500	57,450	58,556	60,000	60,800	62,000
Smallpox	... 1	... —	... —	... —	... 3	... 1	... 25	... 122	... —
Scarlet Fever...	297	... 245	... 263	... 198	... 270	... 285	... 321	... 353	... 268
Diphtheria in- clud'g Croup	23	... 21	... 21	... 45	... 24	... 64	... 34	... 33	... 48
Typhus Fever...	1	... 7	... 36	... 1	... —	... 12	... 15	... —	... —
Continued Fe'er	—	... —	... —	... —	... —	... —	... —	... —	... 1
Enteric Fever...	132	... 154	... 124	... 77	... 97	... 76	... 62	... 61	... 22
Puerperal Fever	12	... 3	... 2	... 3	... 2	... 6	... 1	... —	... —
Erysipelas	... 62	... 67	... 41	... 40	... 54	... 51	... 50	... 25	... 39
Phthisis	... —	... —	... —	... —	... —	... †22	... 21	... 21	... 43

(6 mths)

† Phthisis not notifiable until July, 1901.

Out of 339 cases occurring among the classes of disease for which accommodation is provided at Linacre Hospital, 262 or 77% were removed to hospital. The percentage of removals in 1903 was 68%.

I may say that it is extremely rare to find parents unwilling to allow their children to go to the Infectious Hospital ; on the contrary, when our hospital has been full I have been repeatedly urged by parents to make room for their children.

SMALLPOX.

No cases of Smallpox were notified during the year, though several persons who had been in contact with the disease on vessels arriving in the Mersey have from time to time been under supervision.

SCARLET FEVER.

The decrease in the number of cases of Scarlet Fever occurring in the Borough is marked, 24% less than the number notified in 1903. This of course means not only a saving of money for the maintenance of cases in hospital (each case costs the ratepayers roughly £10), but when the wards are not overworked the patients do very much better.

The number of cases notified during 1904 was 269, a decrease of 85 compared with 1903.

The deaths numbered 13 (4·8% of the cases) compared with 25 in 1903 (or 7 %.)

The Death Rate per 1,000 has thus fallen from 0·41 in 1903 to 0·20 in 1904. Of the 13 deaths, 9 were of children under 5 years of age.

The cases were distributed among the Wards as follows :—

		Derby.		Stanley.		Mersey.		Knowsley.		Linaere.
Cases Notified	...	82	...	62	...	44	...	37	...	44
Cases Removed	...	64	...	41	...	35	...	33	...	28

The following Table shews the percentage of cases notified as Scarlet Fever removed to Hospital since 1891, with number of deaths and percentage of deaths to cases.

Year.	Cases Notified.	Cases Notified per 1,000 of Population.			Cases Removed	Percentage of Removals.		Deaths	Percentage of deaths to Notifications.		
1891	.....259	...	5·2	...	29	...	11	..	32	...	12·3
1892	.....289	...	5·7	...	47	...	16	...	32	...	11·0
1893	.... 332	...	6·5	...	89	...	27	...	20	...	6·0
1894	.... 638	...	12·2	...	195	...	30	...	36	..	5·6
1895	.....300	...	5·7	...	124	...	41	...	14	...	4·6
1896	.....297	...	5·5	...	124	...	41	...	20	...	6·7
1897	.....245	...	4·5	...	133	...	54	...	13	...	4·9
1898	..... 263	...	4·8	...	162	...	61	...	10	...	3·8
1899	.. ...198	...	3·5	...	124	..	62	...	10	...	5·0
1900	.....270	...	4·7	...	170	..	62	..	17	...	6·2
1901	.....285	...	4·8	...	202	...	71	...	16	...	5·6
1902	.....321	..	5·4	...	259	...	80	...	14	...	4·3
*1903	.....353	...	5·7	...	225	...	63	...	25	...	7·0
1904	.....269	...	4·3	...	210	...	78	...	13	...	4·8

* N.B.—In this year Smallpox was epidemic. As a result, the accommodation available for Scarlet Fever was curtailed, and admission was refused to very many cases which otherwise would have gone to hospital.

I would like to repeat what I mentioned in my last annual report, viz., that many cases could be prevented if an ordinary amount of care were exercised by parents in isolating patients before they are removed to hospital. By doing so, they would be saved much anxiety, and the town a large amount of money. It is a common occurrence for the inspector when he calls to remove the patient to find such patient playing with, or in the same bed as other children not suffering from the disease.

DIPHTHERIA.

In 1904 the number of cases notified was 48, of which number 16 died. The percentage of deaths to cases is thus 33.

The cases occurred in the Wards as under :—

Derby.	Stanley.	Mersey.	Knowsley.	Linaere.				
8	...	6	...	11	..	13	...	10

The following table shows the number of Diphtheria cases, number of deaths and percentage of deaths to cases during last 11 years.

	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.
Number of cases notified, including Croup	44	27	23	21	21	45	24	64	34	33	48
Number of Deaths, including Croup ...	10	19	12	11	12	14	10	11	8	9	19
Number of cases admitted to Hospital ...	3	2	8	5	4	12	9	45	25	20	36
Number of deaths in Hospital	—	—	3	1	2	—	4	7	2	4	12
TRACHEOTOMY—											
Number of Cases						—	3	11	8	4	9
Number of Deaths	(No Record)					—	—	2	—	3	3
*Hospital Mortality	—	0%	37%	20%	50%	0%	44%	15%	8%	20%	33%
*Outside Mortality	22%	76%	60%	62%	58%	42%	40%	21%	66%	37%	58%

* NOTE.—The numbers dealt with are so small that the percentages are of very little value.

For fuller details of Diphtheria cases see the Hospital Report page 45.

Swabs of all the throats were taken on the admission of cases to hospital and examined bacteriologically.

54,000 units of Antitoxin were given free to practitioners on application, against 30,000 units in 1903. The Antitoxin is kept in small bottles, each containing 2,000 units. 4,000 units is a dose which can safely be given to a very young child. It is a well-established fact that the mortality from Diphtheria depends very largely on the promptness with which the disease is cut short by the use of Antitoxin. The importance of its use at the earliest possible moment need, therefore, hardly be urged here.

Many of the cases were sent into hospital at a very late stage of the disease, when they were thoroughly saturated with the poison, and in a condition which gave little hope of recovery. I have no hesitation in saying that if medical advice had been sought earlier, and the cases removed to the hospital sooner, many lives would have been saved.

TYPHOID.

The number of cases of Typhoid notified during the past year is extraordinarily small, only 22, and 4 of these were found not to be so suffering after observation in hospital, thus leaving but 18 cases. In 1897 there were 154, and in 1898, 124 cases reported. The decline since has been gradual and continuous, and the small number of cases reported last year is of course easily a record. It is to be hoped, though one can hardly expect it, that the number of cases reported will remain at the present abnormally low level.

This disease is perhaps the most intimately connected of all the infectious diseases with sanitation, and the comparative freedom of the Borough from the disease speaks well for its general sanitary condition.

The 22 cases were distributed among the wards as follows:—

Derby Ward.	Stanley Ward.	Mersey Ward.	Knowsley Ward.	Linacre Ward.
2	3	5	8	7

17 of the cases were removed to hospital.

Enquiries were made in all cases of Typhoid notified as to whether shell fish had been eaten or not, but in no instance was such a history obtained.

TYPHUS FEVER.

No case of Typhus occurred during the past year.

MEASLES.

During 1904 the deaths of 48 children were due to Measles as against 2 in 1903.

The tendency of Measles to become epidemic every second year is well exemplified by the following table.

Table showing certain statistics with regard to Measles for the last 8 years :—

Year.	Total Deaths.	Ages at Death.					
		Under 1	1 to 5	5 to 15.	15 to 25.	25 to 65.	over 65.
1897	14	...	...	14	Deaths under 1 year were not differentiated from the next class until 1900.		
1898	7	...	...	7			
1899	6	...	...	6			
1900	21	8	11	...	2		
1901	5	1	3	...	1		
1902	46	9	35	...	2		
1903	2	1	1				
1904	48	9	39				

Table showing mortality from Measles per 1,000 persons living at the undermentioned age groups :—

Below 1.	1 to 5	5 to 15	15 to 25	25 to 65.	over 65.
5.2	6.5	0	0	0	0

Any case of the disease notified by the School Authorities is visited by the Lady Sanitary Inspector, who visits the house, gives advice as to isolation and nursing, and leaves a copy of the accompanying leaflet.

457 Houses where Measles had broken out were thus visited.

MEASLES.

ADVICE TO PARENTS.

Measles is spread often by the great carelessness of some parents, often by ignorance of the precautions necessary. The popular idea that Measles is "a trifling disease," and "the sooner children have it and get it over the better," is a very wrong one. The facts are :—

1. Measles kills every year more than twice as many children as Searlet Fever does, and therefore cannot be said to be a trifling disease.
2. *Nearly all* the deaths from Measles occur in the first five years of life, most in the first and second years, a decreasing number in third, fourth and fifth, practically none occurring in children over five years of age.

These facts show :—

- (a) How necessary it is to protect the very young from Measles.
 - (b) That the longer children are protected from the disease the less likely they are to die when attacked.
 - (c) That children should not be put together so that all may take Measles, but it is the duty of parents to prevent the disease from spreading among members of their families.
3. Children get sore eyes, running from ears, bronchitis and consumption, after Measles. Proper care at the time of attack will often prevent years of after suffering, to say nothing of expense.
 4. Measles begins like a cold in the head—sneezing, running from eyes and nose, &c. When, therefore, Measles is about, a child thus affected should be isolated at once, without waiting for the rash to appear, as it is especially infectious during this period. The rash appears on the fourth day, and if the child has not been isolated, it may have given the disease to hundreds of children in those four days.
 5. A child attacked by Measles should be put by itself and a fire lighted in the room. If the child cannot be kept by itself, every parent should see that such child does not go into the street, and that other children are not allowed in the house.
 6. When a case of Measles occurs in a house *all* the children should be kept from school until at least 16 days have passed since the last child took the disease.
 7. Children attacked with Measles should be kept in bed until all cough has disappeared, and for at least a week after the rash has gone in.
 8. No Child who has had Measles should attend school or mix with other children for at least three weeks.
 9. Sunlight and fresh air are among the best disinfectants. Infected rooms should have windows thrown widely open for two or three days after being occupied by the patient. All bedding and clothing should be washed with carbolic and hung in the open air. The floors of the room should also be washed with carbolic.
 10. By the exercise of common sense and care a vast amount of sickness, suffering, and loss of life, can be prevented.

N.B.—Houses will be disinfected by the Sanitary Authority when requested. Disinfectants can be obtained at the Town Hall.

W. N. BARLOW, *Medical Officer of Health.*

On June 18th the Infants' Departments of Hawthorne Road, Bedford Road, and St. John's Council Schools were closed for three weeks owing to the incidence of Measles among the Scholars.

On October 18th the Infants' Department of Salisbury Road Council School and on November 7th that of Gray Street, were closed for the same reason.

The closing of these portions of the schools certainly had a beneficial effect on the course of the epidemic.

A large number of the cases could have been prevented by care on the part of the parents, and there is not any doubt that when the disease was contracted, carelessness in the treatment of the children by parents contributed to many of the deaths.

WHOOPING COUGH.

This disease caused 41 deaths last year, equal to a rate of ·66 per 1000, against ·26 per 1,000 in the previous year.

Deaths from Whooping Cough from 1891 :—

1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904
Deaths 35	... 6	... 32	... 22	... 26	... 14	... 14	... 27	... 21	... 56	... 6	... 23	... 16	... 41

Death rates from Whooping Cough per 1,000 of children living at the following age groups :—

Under 1.		1 to 5		5 to 15		15 to 25		25 to 65		over 65.
8·7	...	4·0	...	0·1	...	—	...	—	...	—

Whooping Cough and Measles yearly cause more deaths than all the other infectious diseases taken together. The disease is very infectious, but the period of infection is indefinite and variable. Many deaths, doubtless, could be avoided with ordinary care on the part of parents to prevent the children affected taking chills, but it is difficult to suggest any means for reducing the mortality from this disease except by eradicating from people's minds the idea that Measles and Whooping Cough are diseases about which no trouble need be taken and no anxiety felt.

All cases of Whooping Cough and Measles notified from schools are visited by the Lady Sanitary Inspector. The following table shows the work done in this direction : —

CASES OF INFECTIOUS DISEASE NOTIFIED BY ELEMENTARY EDUCATION
AUTHORITIES.

1904.

SCHOOL.	Measles.	Chicken Pox.	Whooping Cough.	Other Diseases.	TOTAL.
Salisbury Road. .	82	8	76	1	167
Hawthorne Road..	44	6	27	4	81
Bedford Road	62	12	9	5	88
Gray Street.....	56	5	80	3	144
St. James'	49	8	31	5	93
St. Mary's	44	4	27	15	90
Christ Church.....	6	5	10	1	22
St. John's..... . .	60	12	5	2	79
St. Alexander's	13	1	14	5	33
St. Paul's.....	1	1	0	1	3
St. Winefride's. . .	28	2	21	3	54
Total...	445	64	300	45	854

CASES VISITED BY LADY SANITARY INSPECTOR.

		No. Visited and diagnosis found correct.		No. found not suffering as reported.		
Measles ...	...	457	...	...	69	
*Chicken Pox ...	...	85	...	...	8	
Whooping Cough ...	...	445	...	...	50	
Other Diseases ...	...	56	...	...	0	
Total ...	...	1,043			127	= 1,170

*The other cases of Chicken Pox were visited by the Assistant Medical Officer of Health.
Other diseases include Ophthalmia, Eczema, Mumps, &c.

DIARRHOEA.

In my last two annual reports I have reported at length on the incidence of this disease and the causes contributory thereto. Enquiries made last summer have not resulted in bringing to light any new factor, but have only tended to verify previous convictions, viz., that the principal cause is Improper Feeding, the result of either ignorance, indifference or neglect on the part of the mother. Other contributory causes are uncleanness, especially in regard to the vessels containing the milk, the bottle and tube—the neglect of breast feeding, alcoholism and poverty resulting in the production of weakly children and causing neglect afterwards.

The influence of flies in acting as germ carriers to the milk is probably considerable. In many houses where death occurred there was quite a plague of flies, and in spite of warnings vessels containing milk and other foods were left uncovered, allowing these insects to settle on them at their will.

During the past summer the Health Committee employed an extra Lady Inspector, who devoted her time entirely to finding out cases of diarrhœa, visiting them, making enquiries, and giving advice. Although the summer was hot and dry, a favourable one for Diarrhœa, the number of deaths, if we except 1901 and 1903, in which years the summers were cold and wet, is smaller than in preceding years, as the following table shows :—

1897	1898	1899	1900	1901	1902	1903	1904
153	114	146	139	113	53	85	109

The following table gives the distribution of the deaths in the various wards and streets :—

DERBY.		STANLEY.		MERSEY.	
Suffolk Street ...	1	Wadham Road	1	Seaforth Street	3
Cedar Street ...	1	Olivia Street ...	5	Mann Street ...	2
Spring Grove ...	1	Orlando Street	1	Pleasant Grove	3
Park Street ...	1	Benedict Street	4	Derby Road ...	4
Hawthorne Road	1	Viola Street ...	1	Cross Street ...	1
Litherland Road	2	Queen's Road ...	1	Asheroft Street	1
Brookhill Road	2	Beatrice Street	1	St. John's Road	1
Gloucester Road	1	Cambridge Road	1	Berry Street ...	1
Worcester Road	1	Bianca Street ...	2	Canal Street ...	2
Norfolk Street...	1			Lincoln Street	1
				Johnstone Street	1
				Lyons Street ...	1
				Matthew Street	3
				Irlam Road ...	1
				Bostock Street	1
				Chapel Street ...	2
				Campbell Street	1
				Leslie's Buildings	1
				Emley Street ...	1
Total ... 12		Total ... 17		Total ... 31	

KNOWSLEY.		LINACRE.	
Addison Street	1	Spenser Street	2
Boston Street...	1	Salisbury Road	1
Denbigh Street	1	Chesnut Grove	2
Boreland Street	1	Tennyson Street	1
Strand Road ...	3	Knowsley Road	2
Virginia Street	1	Cyprus Road ...	1
Oregon Street...	1	Moore Street ...	1
Bank Road ...	1	Wordsworth St.	1
Audley Street...	3	Keats Street ...	2
Clifford Street...	4	Shelley Street	2
Stafford Street	2	Peel Road ...	1
Irlam Road ...	1	Percy Street ...	2
Seaview Road...	1	Southey Street	1
Nevada Street...	1	Hemans Street	1
Chaucer Street	1	Smyrna Road	1
		Bulwer Street	1
		Bowles Street...	2
		Hood Street ...	1
		Mildmay Road	1
<hr/>		<hr/>	
Total	... 23	Total	... 26

A glance at this table shows that the greatest incidence of mortality is in the streets in which the poorest of our population live, and I may add that generally speaking, a very large number of children who died were weakly children, who in the ordinary course of events would have fallen victims to the first severe illness which might have befallen them. No less than 22 or 20% of the total number of deaths were reported by the Lady Sanitary Inspector as those of children extremely delicate from birth. Five of these were children of twin births. In six instances mothers of very young children had left them in charge of a third person—two of these were illegitimate.

In 64 cases infants were insured. In 15 cases one or more deaths from this disease have occurred previously in same family.

In the following 4 cases, 3 or more deaths have occurred :—

No. of children in family.	No. died from				
	No. dead.	Diarrhœa.	Parents drink.	Age.	Food.
9	3	3	Yes (father)	2 years	Anything.
4	4	4	No	9 weeks	Breast.
5	4	4	No	6 months	New milk and Robin- son's Patent Barley, L. T. B.
11	5	5	No	11 weeks	New milk, Allen- bury Feeder.

2 children whose deaths were registered as due to Diarrhœa also suffered from measles.

2 children whose deaths were registered as due to Diarrhœa also suffered from convulsions.

1 child whose death was registered as due to Diarrhœa also suffered from congestion of lungs and bronchitis.

3 children whose deaths were registered as due to Diarrhœa also suffered from consumption bowels from birth.

1 child whose death was registered as due to Diarrhœa also suffered from catarrh of stomach.

1 child whose death was registered as due to Diarrhœa also suffered from pneumonia.

1 child whose death was registered as due to Diarrhœa also suffered from inflammation of bowels.

In the above cases the mothers stated that the children had not died from diarrhœa, but from the other diseases mentioned.

Sanitary defects were found in 11 cases:—

Defective gully trap	...	...	...	...	...	1
Defective yard surfaces	...	...	...	...	...	6
Choked drains	...	..	...	...	...	3
Uncovered ashpit	...	...	...	...	...	1

Enquiries were also made with the idea of showing the effect (if any), of excessive indulgence in Alcohol upon Summer Diarrhœa. I do not suggest that the excessive indulgence in the use of Alcohol by the parents has any direct effect upon the disease, but its indirect effect is undoubtedly great. In the first place the children born of parents markedly intemperate, are often weakly children, likely to succumb to the first illness which may attack them; in the second place the amount of money spent in drink must diminish the amount available for the purchase of food, and since it is common knowledge that very many people in this class will have drink rather than food, when work is not plentiful the amount of money spent upon food diminishes to the vanishing point, with the result that when food is bought the quantity is insufficient for the proper nourishment, not only of the children, but of the parents, and moreover, the food bought is of the very cheapest, without regard to suitability. Children not breast-fed will then have the choice between an insufficient amount of new milk, or the cheapest kinds of prepared foods, and such articles of diet as skimmed milk, condensed skimmed milk, barley water, or some other patented barley—foods generally speaking unable to sustain life, and which are in addition probably badly prepared for the children.

Again, it must be remembered that when the mothers are drunk, the infants are either utterly forgotten and get no food at all, or else are given over to the care of children very few years older than themselves, with results often disastrous.

The information contained in the following table is probably an under estimate, only authenticated instances being reported, *e.g.*, either that the parents were seen by the Lady Sanitary Inspector drunk on several occasions, or the information was given by the people themselves:—

In 12 cases both parents drink.

In 2 cases father alone drinks.

In 6 cases mother alone drinks.

In five cases children were known to sit on the kitchen floor or on the front door step or in the street—ages from 10 months upwards.

The inference from this is that the children put their hands into all kinds of dirt and afterwards infect their food with their unwashed hands. The custom of putting young children to play on the kitchen floor is not one to be commended.

Among the 109 infants who died :—

56 were under 6 months old.	} <i>i.e.</i> , 91 under 1 year of age.
35 between 6 and 12 months old.	
11 between 12 and 18 months.	
8 between 18 and 24 months	
1 over 2 years old.	

Enquiries as to the method of feeding the children gave the following results :—

15 cases were fed on breast only.
 7 cases were fed on breast and hand fed.
 88 cases were fed by hand only.

Among the 15 cases on the breast, 3 were weaned very suddenly on account of mothers being taken ill.

Cow's milk was used in 27 cases.
 Condensed milk alone, 4 cases.
 Foods (in addition to milk, new and condensed), 16 cases.
 Barley milk, 26 cases.

L. T. B. (Long Tubed Bottles) were used in 29 cases.
 B. B. (Boat Shaped Bottles) were used in 26 cases.

In one case sterilized milk from Liverpool Corporation Dépôt was used, but L. T. B. also.

The deaths occurred in 108 houses :—

73 of which were occupied by 1 family.
 26 were occupied by 2 families.
 7 were occupied by 3 families.
 2 were occupied by 4 families.

Two notices for overcrowding were sent, and two complied with.

The following are the measures taken to combat the disease.

MEASURES ADOPTED TO CONTROL DIARRHŒA.

1. At my request the Registrar of Births and Deaths very kindly consented to give to the parents at the registration of every birth a copy of a "Memorandum as to the Feeding of Infants and Young Children," compiled by me. This has been done.

2. The Lady Sanitary Inspector selects from the Returns of Births those occurring in the poorer neighbourhoods; visits these houses; gives the parents advice as to the feeding of infants; sees that the houses are kept clean; impresses upon the people the value of cleanliness; and instructs them as to the ventilation of their rooms.

3. The Lady Sanitary Inspector visits every house where a death from Diarrhœa has occurred; makes enquiries and gives advice, should any other child be suffering from that disease.

TEACHING OF HYGIENE.

Among the suggestions for controlling Summer Diarrhœa made in my last Annual Report was one recommending that Elementary Hygiene should be taught in the schools, and included in that subject there should be instruction to the older girls with respect to the feeding of children. With this object in view, your Health Committee, acting on my suggestion, recommended to the Education Committee that I should give lectures on these subjects to the teachers. I gave these lectures and presented each lady present with a type-written copy thereof. Several towns have since adopted the same line of action. The lectures were, however, not so well attended as they might have been, many of the schools not being represented at all. This is to be regretted. The importance of teaching of Hygiene in Public Elementary Schools is now generally accepted. Within the past few months a monstre petition signed by many thousands of the Medical profession has been presented to the Board of Education urging the necessity for the step, to which petition a very favourable reply was received, and there can be no doubt that within a very short time this will be a compulsory subject in the syllabus of every Public Elementary School, and Hygiene in some form or other will be taught to every child. I recommend that the lectures to school teachers be repeated, though I must say that the full benefit will not be derived from them unless means be adopted to secure a better attendance of those persons teaching the older girls' classes than was the case last year.

The additional Female Inspector appointed temporarily for the summer months did good work. Of course it is impossible to point definitely to the results of her work and say that so many cases were prevented and that through her exertions the mortality was less. Her duties consisted entirely in finding out cases of diarrhœa among children, advising mothers as to feeding, seeing that the homes were kept clean, and often giving such assistance as only a trained nurse can give. I, personally, have no doubt whatever that her work was productive of good, many cases of diarrhœa in the very earliest stages were found and by reason of the advice given the children recovered. Among the suggestions which follow I again recommend the appointment of a temporary inspector for this work.

SUGGESTIONS FOR FUTURE.

1. I am convinced that the death rate from Diarrhœa will show no material improvement until the dark pall of ignorance with respect to the feeding of children which enshrouds not only the mothers of the poorer class, but also many of the better class, is removed. Very often the advice of an ignorant nurse, especially if she be an elderly woman, is set against the advice of a medical man, invariably to the disadvantage of the latter. The fact that a woman has had thirteen or fourteen children (many of whom have perhaps died from Diarrhœa) is deemed by some to be sufficient evidence that she must of necessity know more about the matter of feeding children than any medical man can possibly know. Attempts are being made to educate the mothers of the present day by means of leaflets and personal instruction by the Lady Sanitary Inspector. In addition, I would suggest that the very elementary facts of infant feeding be taught to the elder girl children in every public school. These girls may be mothers themselves in future, but very often at the present time they are left in charge of the small child at home while the mother is out working.

2. The one thing absolutely necessary is constant supervision ; it is of no use for a house to be visited once, and again at the end of four weeks or perhaps never again. The poorer houses should be visited two or three times weekly. For this purpose I would recommend the appointment of another Lady Inspector, and perhaps a third for temporary duty during the Summer months.

It is in my opinion necessary that some punitive measures be devised whereby parents who have exhibited gross carelessness in regard to the feeding of, and general attention to, their children, should be punished. The practice of insuring young children should be restricted or prohibited.

I do not suggest that the fact of a child having been insured will cause that child to be wilfully neglected, save in very exceptional circumstances, but it does have the effect of causing parents who are indifferent as to the fate of their children (and such cases are within my knowledge), to be careless in their treatment of them.

For this class of parents (among others), the suggested punitive measures would also have their effect.

I am not prepared at the present time to advise the Committee to supply sterilized Milk, unless they are prepared to do so free of cost; in the first place because my experience leads me to the conclusion that people who need it most are those who either cannot pay the small amount necessary, or are too lazy or indifferent to obtain it, unless it were supplied at a cheaper rate than any other kind of food and brought to their doors; and in the second, it has not been conclusively shown that the use of sterilized milk, according to the present system, has materially lessened the infant mortality.

The establishment of Municipal crèches, where the children who cannot be adequately fed or cared for at home may be looked after, would undoubtedly be productive of good. The great arguments to be advanced against this method are that it is unwise to lessen the responsibilities of parents already relieved of many, and that caring for the children of the poor in this manner is putting a premium on improvidence.

In addition, there is not a large amount of work for women in Bootle (*i.e.* work which would take them from their homes), and there is, therefore, not the same call for such institutions as there would be, in for instance, some of the Lancashire cotton towns.

PHTHISIS.

A very large proportion of the deaths registered from Phthisis occur in the Workhouse Hospitals of the West Derby Union; many of these are sailors and dock labourers who, in all probability, lived in Bootle but a very short time. These deaths materially increase the death rate from Phthisis.

During 1904, 100 deaths were registered from Phthisis, equal to a death rate of 1·6 per 1,000; compared with 76 deaths in 1903, and a rate of 1·2 per 1,000.

The deaths were divided among the Wards as follows :—

Derby.		Stanley.		Mersey.		Knowsley.		Linaere.
15	...	12	...	31	...	31	...	11

The following table shows the yearly number of deaths from Phthisis since 1894, and the rate per 1,000 of population.

	1894		1895		1896		1897		1898		1899		1900		1901		1902		1903		1904
No. of Deaths.	83	...	84	...	70	...	86	...	75	...	92	...	75	...	78	...	92	...	76	...	100
Death Rate per 1,000.....	1·5	...	1·5	..	1·3	...	1·5	...	1·3	...	1·6	...	1·3	...	1·3	...	1·6	..	1·2	...	1·6

Table showing progressive decline in the death rate from Phthisis for the last three decades for the whole of England.

	1866 to 1875.		1876 to 1885.		1886 to 1895.		1896 to 1900.
Annual average death-rate per 1,000 of the population above 6 years of age from Phthisis.	3·62	...	2·78	..	2·44	...	2·03

Since July, 1901, a fee of 2s. 6d. has been paid to medical practitioners for all cases of Phthisis notified by them.

From July to December, 1901, 22 cases were notified. In 1902, 22 cases only were notified for the whole 12 months. In 1903, 21 cases. In 1904, 40 cases.

On receipt of the notification, enquiries are made, a leaflet of the precautions to be taken is left, and a pocket spittoon is given when required. An offer to disinfect the premises is made after every death from Phthisis, and also after the removal of a case to the Hospital.

A special register for Phthisis cases is now kept and the cases are periodically visited by an Inspector, who sees that the necessary precautions for preventing the spread of the infection are being taken. Enquiries are also made with a view of showing the effect on the disease of (1) domestic infection (2) occupation (3) alcoholism. The results are carefully kept, and will doubtless prove of much value in pointing out the lines upon which to proceed in combating the disease.

Notices warning people against the filthy habit of promiscuous expectoration have now been hung in all the bakehouses, and most of the workshops in the town.

I regret that more cases are not notified to me by the medical gentlemen of the borough.

It will be noticed that only 40 cases were notified, while 100 deaths were certified as due to the disease. At a low estimate it may be taken that there are three persons suffering from this disease for every death which occurs. On this basis there will thus be about 300 cases of Phthisis in Bootle. Only 40 were notified, and of these many were notified after death. Although I am of opinion that the prevention of this disease, at any rate as regards case to case infection, is the concern of the family doctor much more than of the Sanitary Authority, I still think there are many more cases than are notified in which the aid of the Sanitary Authority would be of extreme value in the direction of insisting upon cleanliness and ventilation.

I am of opinion that the risk of infection from case to case is apt to be over estimated, but whatever the amount of the risk may be, I have no doubt that such risk would be greatly lessened if due attention were paid to the cleanliness of houses and to the efficient ventilation of houses and rooms by open doors and windows.

The Sanatorium treatment of Phthisis mainly consists in paying attention to light and cleanliness and to providing abundance of fresh air—and if useful for curing the disease, how much more useful must be the application of these principles to the prevention thereof.

The bacteriological examination of sputum is undertaken at the Linacre Hospital, free of charge. This opportunity for bacteriological examination might, however, be made more use of.

Although fewer cases were notified last year than in 1902, the offers to disinfect have been as a rule received with more enthusiasm.

The details of the work done under this head are as follows:—

Number of cases notified and taken from Death Return ...	130
Number of houses disinfected	86
Number of houses disinfected and cleansed	42

The cleansing, which is done at the expense of the Corporation, consists of stripping the walls and whitening the ceilings of the rooms occupied by the patient.

Disinfection consists in thoroughly spraying the walls, ceilings, floors, &c., with a strong solution of Formalin by means of an Equifex Spray.

ALCOHOLISM.

Fourteen deaths are put down as due to this cause compared with eleven last year.

This comparatively small number of deaths from Alcoholism does not in any way indicate the amount of harm done to the public health by excessive drinking.

The children of intemperate parents are often weakly, and nearly always neglected, and it has been found over and over again that the parents of many of those children whose deaths are certified as being due to "Marasmus, Summer Diarrhœa," and such diseases, are markedly intemperate.

Many cases have been brought to my notice during the year where women are in the habit of drinking methylated spirits. The cases have been discovered during investigations with respect to neglect of children, and from their number I should deem the practice to be fairly common. Methylated spirit is a compound containing 10% of wood naphtha, 2% of mineral oil, and 64% of absolute alcohol. It has some similarity in its effects to the French absinthe, and the price, 6d. per pint, makes it possible for the poorest to obtain it and have a regular debauch, especially as there are no restrictions whatever on the sale so long as its composition conforms to the above formula and the retailer obtains a license costing 10/- per year. The drinking of this

crude nauseous spirit has a deleterious effect on the health of the drinkers, and as the immediate drunken effects pass away much more quickly than those which follow the drinking of beer and whiskey this makes the detection of the habit more difficult. It is not a commodity which is at all in general use, and in my opinion greater restrictions should be placed upon its sale—in fact I do not see that any hardship would be imposed if the sale were forbidden altogether to women and young children.

DRAIN TESTING.

During the year the drains of all new houses have withstood the water test before receiving a certificate of suitability for habitation.

338 drains in all have been tested.

When the test was first introduced it was found necessary to apply it in many cases a second, and even a third time, but it is now very occasionally that a second test is necessary, and the second test is chiefly due to the fact that the builders themselves have asked for the test to be made before the cement has been firmly set.

The use of this test has thus ensured the better laying of drains and cannot help but have beneficial results.

OFFENSIVE TRADES.

These have been regularly supervised throughout the year. These trades number five and are as follows:—

		No. of inspections made	
2 Tanneries	16
1 Fellmonger	4
1 Soap Boiler	12
1 Bone Boiler	14

During the year applications have been made for the establishment of the following trades:—

- 1 Bone Boiling—Refused.
- 1 Gut Scraping—Refused.

During the year one offensive trade has ceased to exist, viz., Candler Dipping.

SUBLET HOUSES.

The bye-laws with respect to these have been approved by the Council, and by the Local Government Board, and are now in force. I expect great help from these in respect to the prevention of overcrowding. About 30 houses have already been placed on the register and each tenant furnished with abstracts of the bye-laws.

SLAUGHTER HOUSES.

There are but two slaughter houses in constant use in the Borough. These are kept in a satisfactory condition. Another is occasionally used. Practically all the meat sold in Bootle comes either from the public abattoirs in Liverpool and Birkenhead, or is imported frozen from abroad.

FOOD INSPECTION.

364 Visits have been made to Meat, Fish, Fruit and Ice Cream shops during the year. These visits were made chiefly during the summer. Surprise visits have also been paid on Sunday mornings to shops in certain parts of the Borough where unsound food might be sold, but with trifling exceptions no article of food in an unsound condition has been discovered.

Shops where food is prepared for consumption have now been placed on the workshop register and are inspected as Workshops.

FACTORY AND WORKSHOP ACT, 1901.

Under this Act the Medical Officer of Health is required to report specifically on the administration of the Act in workshops and workplaces, and to send a copy of such report to the Secretary of State.

The workshops and workplaces include Bakehouses, Confectioners' Bakehouses, Dressmakers, Tailors and Milliners' workrooms, Laundries, &c. A list of outworkers employed by different firms engaged in the manufacture of wearing apparel is also kept, and the rooms where the work is done inspected regularly.

This work is performed by one male inspector, while the lady inspector visits the shops where women are employed. They report on :—

- (1) Ventilation.
- (2) Cleanliness of floors and walls.
- (3) Lighting.
- (4) Water-closet provision.
- (5) Overcrowding.

A sharp look out is also kept that no work connected with clothing is done in any house infected with Smallpox or Scarlet Fever.

The following Table shows the summary of work done under the Factory and Workshop Act. It is set forth more in detail on pages 53 & 54.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES AND HOMEWORK.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries.)	52	8	0
Workshops (Including Workshop Laundries)	1666	70	1
Workplaces	542	—	—
Homeworkers' Premises	58	3	—
Total	2318	81	1

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.	
	Found.	Remedied.	Referred to H.M. Inspector.		
Nuisances under the Public Health Acts :—					
Want of Cleanliness	90	90	—	—	
Want of Ventilation	3	3	—	—	
Overcrowding	—	—	—	—	
Want of drainage of floors	9	9	—	—	
Other Nuisances	46	46	—	—	
Sanitary accommodations {	insufficient ...	1	1	—	
	unsuitable or defective ...	1	1	—	
	not separate for sexes ..	—	—	—	
Offences under the Factory and Workshop Act :—					
Illegal occupation of underground bakehouse (S. 101)	1	1	—	1	
Breach of special sanitary requirements for bakehouses (SS. 97 to 100).	1	1	—	—	
Failure as regard lists of outworkers (S. 107)	1	1	—	—	
Giving out work to be done {	unwholesome (S. 108)...	—	—	—	
	in premises which are infected (S. 110)	—	—	—	
Allowing wearing apparel to be made in premises infected by scarlet fever or smallpox (S. 109).	—	—	—	—	
Other offences	—	—	—	—	
Total	152	152	1	1	

3.—OTHER MATTERS.

Class.							Number.
Matters notified to H.M. Inspectors of Factories :—							
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	...	...	...	...	...	...	12
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5)	{ N'fied by H.M. Insp'tor Reports (of action taken) sent to H.M. Inspectors						3
Other	...	...	...	...	...	...	2
Underground Bakehouses (S. 101)—							
In use during 1903	...	...	...	...	...	...	23
Certificates granted	{	in 1903	...	...	...	...	0
		in 1904	...	...	...	...	18
In use at the end of 1904	...	...	...	...	...	...	18
Homework :—							
							Number of
List of Outworkers (S. 107) :—							Lists. Outworkers.
Lists received	...	...	...	...	...	...	8 24
Addresses of outworkers	{	forwarded to other Authorities				...	2 2
		received from other Authorities				...	2 13
Homework in unwholesome or infected premises :—							
							Wearing Apparel. Other.
Notices prohibiting homework in unwholesome premises (S. 108)	...	...	...	...	...	...	— —
Cases of infectious disease notified in homeworke's premises	...	...	...	...	...	...	1 —
Orders prohibiting homework in infected premises (S. 110)	...	...	...	...	...	...	1 —
Workshops on the Register (S. 131) at the end of 1904.							
Bakehouses	...	...	...	...	...	...	37
Confectionery Bakehouses	...	...	...	...	...	...	29
Workshops	...	...	...	...	...	...	75
Work Places	...	...	...	...	...	...	100
Outworkers Premises	...	...	...	...	...	...	24
Total number of workshops on Register							265

Speaking generally, the rooms where dressmaking, millinery and tailoring are done, are sanitary, and are kept in a cleanly state. The same applies to rooms occupied by outworkers. The number of cellars in Bootle used as workshops is very few.

BAKEHOUSES.

The Underground Bakehouses in the Borough have all been altered in accordance with the plans approved by the Health Committee, and in accordance with the specification of work set out in my last annual report.

The alterations have effected a vast improvement in their condition, and in them the workers can now work in comfort and under more healthy conditions, while the bread is produced under vastly superior circumstances as regards cleanliness.

All the confectionery bakehouses, except 2, are on the ground level.

In the carrying out of the alterations in the bakehouses, which have cost a considerable sum of money, I have pleasure in recording the friendly spirit with which the bakers met the recommendation of the Health Committee, and I personally have to bear witness to the consideration which was always shown to any suggestions of my own.

One person was prosecuted and fined for illegally using an underground confectionery bakehouse without a certificate. The defendant refused to have any alteration made, and insisted on using an unsuitable underground bakehouse in defiance of all notices to discontinue the use thereof.

DAIRIES, COWSHEDS AND MILKSHOPS.

The Dairies, Cowsheds and Milkshops have been regularly inspected throughout the year. For particulars see page 52.

All the cows in the various shippens have been examined periodically by the Veterinary Surgeon, and distinct benefit has resulted from this procedure. All animals showing distinct signs of Tuberculosis of the udder, and all those animals showing doubtful signs which have given a positive re-action to the Tuberculin test, have been removed from the district without delay. Fifteen

animals have thus been removed during the past year. In addition 6 cows were sent out of the Borough on the advice of the Veterinary Surgeon without the test being applied. The average number of cows housed in shippens in Bootle is about 480.

Consent for the application of the Tuberculin test has been readily given by the cowkeepers in all doubtful cases.

Under the old method of procedure the milk of the 21 cows above-mentioned would have been sent for bacteriological examination, and an interval of about five weeks would have elapsed before the result of such examination could be known. During this period the milk from such animals would either have been destroyed at the expense of the Corporation, or have been mixed with other milk and sold.

The Veterinary Surgeon reports a continuous improvement in the quality and condition of the cows kept in Bootle shippens, and also remarks that the cowkeepers look with favour upon the present procedure, and have cordially welcomed his visits.

During the year 40 samples of milk were sent to Professor Boyce for Bacteriological Examination. The following table shows the results of such examination :—

Milk from.	No. of samples sent.	No. of samples in which Bacillus Coli was found.			No. found Tubercular.	No. correct.	
Bootle Shippens.....	18	...	3	...	1	...	14
Country	22	...	18	...	1	...	3

The Bacillus Coli is an organism associated with dirt. Its presence in milk indicates contamination, which may take place either from the hands of milkers, or from the cow, or in course of transit. The above figures show the milk as delivered to the consumer from Bootle shippens in a very favourable light in this respect compared with that brought into the town from the country.

One sample found to be Tubercular was from a cowshed outside the Borough. The shippen was inspected by myself and the Veterinary Surgeon, but the latter, after examination of all the animals, decided that they were all free from the disease. Several cows had been sent out of the shippen since the sample was taken.

Report of Cases treated in the Infectious Hospital, Linacre.

Resident Medical Officer—Dr. JOSEPH BEARD.

Table shewing cases treated in hospital.

Disease.	No. of Cases.	No. of Deaths.	Percentage Mortality.
Scarlet Fever. .	223	12	5·3
Enteric Fever....	18	1	5·5
Diphtheria	40	15	37·5
Small Pox.....	—	—	—
Other Diseases...	14	—	—

SCARLET FEVER.

Age.	Bootle.		Litherland.		Gt. Crosby.		Total.	Deaths.
	Males.	Females.	Males.	Females.	Males.	Females.		
0-1	1	—	—	1	—	—	2	—
1-2	3	9	—	—	—	—	12	2
2-3	5	6	—	1	—	1	13	1
3-4	10	11	—	—	—	—	21	3
4-5	13	7	—	3	—	1	24	2
5-10	47	50	1	4	—	1	103	2
10-15	14	19	1	2	1	1	38	2
15-20	—	1	1	—	—	—	2	—
20-25	—	1	—	—	—	1	2	—
25-35	1	3	—	—	—	2	6	—
35-45	—	—	—	—	—	—	—	—
	94	107	3	11	1	7	223	12

The deaths were distributed as follows : —

Bootle.		Litherland.		Gt. Crosby.
10	...	1	...	1

DIPHTHERIA.

Age.	Bootle.		Litherland.		Gt Crosby.		Total.	Deaths.
	Males.	Females.	Males.	Females.	Males.	Females.		
0-1	—	—	—	—	—	—	—	—
1-2	3	—	—	—	—	—	3	—
2-3	1	3	—	—	—	—	4	2
3-4	2	1	2	—	—	—	5	2
4-5	1	2	—	—	—	—	3	2
5-10	4	13	1	1	—	1	20	9
10-15	3	—	2	—	—	—	5	—
15-20	—	—	—	—	—	—	—	—
20-25	—	—	—	—	—	—	—	—
	14	19	5	1	—	1	40	15

DEATHS.

Bootle.		Litherland.		Gt. Crosby.
12	...	1	...	1

Note.—Two of the deaths were of cases admitted in 1903.

Three of the deaths lived respectively $\frac{1}{2}$, 1 and 4 hours after admission.

One was that of a child admitted with advanced diphtheritic paralysis, and died soon after admission.

Tracheotomy was performed in nine cases, with three deaths.

ENTERIC FEVER.

Age.	Bootle.		Litherland.		Gt Crosby.		Total.	Deaths.
	Males.	Females	Males.	Females.	Males.	Females.		
0-5	—	—	—	—	—	—	—	—
5-10	2	1	—	—	—	—	3	—
10-15	1	—	2	—	—	1	4	—
15-25	4	—	1	—	—	—	5	—
25-35	3	1	—	—	—	—	4	—
35-45	1	—	—	—	—	—	2	1
over 45	—	—	1	—	—	—	—	—
	11	2	4	—	—	1	18	1

The death was a Litherland case.

CASES SENT IN WITH INCORRECT DIAGNOSES.

No. of Cases.	Diseases.	Sent in as	Result	
			Died.	Recovered.
1	Pulmonary Tuberculosis	Enteric Fever ...	—	1
3	Simple Fever ...	Enteric Fever ..	—	3
1	Laryngismus Stridulus	Diphtheria ...	—	1
2	Simple Pharyngitis ...	Diphtheria ...	—	2
1	Chicken Pox ...	Small Pox ...	—	1
5	Isolation ...	Isolation ...	—	5
1	Measles ...	Scarlet Fever ..	—	1
14			—	14

TABLE No. 1.—TABLE SHEWING QUARTERLY ANALYSIS OF WATER SUPPLIED BY THE LIVERPOOL WATER COMMITTEE
TO BOOTLE DURING THE YEAR 1904.

Description.	DATES OF Analysis Report	DATES OF Samples Drawn	Total Solid Matter in Solution	Organic Carbon.	Organic Nitrogen	Ammo- nia.	Nitro- gen as Nitrates	Total combined Nitrogen	Chlorine	Oxygen in 15 mins.	Oxygen consumed in 3 hrs.	Total Hard- ness.
Vyrnwy	Mar.	4.6	.251	.044	.002	.000	.046	.85	.095	.162	2°
Rivington	Mar. 28th, 1904.	8.84	.161	.033	.002	.000	.036	1.4	.045	.104	3 $\frac{3}{4}$ °
Green Lane Well	31.8	.023	.006	.000	.572	.578	3.3	.000	.000	18 $\frac{1}{2}$ °
Vyrnwy	June	4.2	.185	.034	.002	.000	.036	.9	.061	.124	1 $\frac{1}{2}$ °
Rivington	June 25th, 1904.	9.0	.162	.028	.002	.000	.03	1.4	.162	.028	4°
Green Lane Well	32.48	.021	.006	.000	.612	.618	3.5	.000	.000	19°
Vyrnwy (filtered)	...	Sept.	5.24	.006	.006	.004	.000	.006	.95	.084	.147	1° 82
Rivington (filtered)	...	Sept. 10th, 1904.	10.12	.006	.006	.002	.000	.006	1.5	.018	.034	3° 51
Green Lane Well	33.08	.000	.000	.000	.594	.594	3.4	.000	.000	19° 71
Dudlow Lane Well	19.84	.000	.000	.001	.684	.684	3.2	.000	.000	8° 86
Windsor Well	43.64	.000	.000	.000	1.054	.000	4.55	.000	.000	29° 16
Tap in Laboratory	...	Sept. 1st, 1904.	11.36	.006	.006	.003	.021	.021	1.6	.031	.055	5° 29
Vyrnwy	Dec.	4.28	.009	.009	.003	none	.009	.85	.081	.174	1° 82
Rivington	Dec., 1901.	9.60	.009	.009	.003	trace	.009	1.35	.026	.051	4° 29
Green Lane	33.08	.000	.000	.000	.480	.000	3.25	.000	.000	21° 42

Sanitary Administration.

SUMMARY OF WORK DONE BY LADY SANITARY INSPECTOR.

No. of Houses visited (including visits to houses where deaths had occurred from Epidemic Diarrhœa)	7391
„ Houses found dirty	904
„ Families visited... ..	9789
„ Houses Re-visited	2782
„ Notices sent for dirty floors and bedding	97
„ Notices sent for overcrowding	40
„ Notices sent for dirty floors and overcrowding	12
„ Notices complied with	139
„ Notices referred to Sanitary Inspectors	8
„ Notices cancelled	2
„ References to Sanitary Inspectors	729
„ Enquiry visits	73
„ Workshops visited	87
„ Workshops found dirty	2
„ Workshops Re-visited	6
„ Notices sent to Workshops	3
„ Notices complied with	3
„ Visits to cases of infectious disease notified by the Elementary Education Authorities	1170

NUISANCES.

No. of Complaints made by inhabitants	...	...	...	682
,, Nuisances discovered on above	...	...	...	740
,, Nuisances discovered on house to house inspection	...	...	...	6547
,, Notices issued to owners	...	...	...	6801
,, ,, occupiers	...	...	...	320
,, Notes to Complainants	...	...	...	306
,, Notes sent to comply with notices	...	..	...	381
,, Nuisances re-inspected	...	...	...	10448
,, Water closet conversions	...	...	...	28
,, Ashpits substituted by bins (does not include number fixed at new property	...	...	...	23
,, Informations laid	...	...	...	20
,, Of Convictions	...	...	...	18
,, Magistrates Orders obtained	...	...	...	6
Amount of Fines and Costs	...	...	...	£6 5s. 6d.

In the case of the 2 non-convictions, the summonses were withdrawn on payment of costs, the nuisances having meanwhile been abated.

COMMUNICATIONS SENT OUT FROM OFFICE.

References to the Borough Engineer...	...	...	...	326
,, ,, Building Surveyor...	...	...	...	69
,, ,, Water Engineer, Liverpool	...	...	...	107
,, ,, The Education Authorities	...	...	...	207
,, ,, Public Library	...	...	...	313
,, ,, House Surgeon, Bootle Hospital...	...	...	...	313
,, ,, Sunday Schools	...	..	...	123
,, ,, Day Schools	...	...	...	231
Communications <i>re</i> Nuisances	...	...	...	636
,, ,, <i>re</i> Contacts	...	..	...	21

CANAL BOATS ACT.

Boats inspected in 1904	251
-------------------------	-----	-----	-----	-----	-----	-----

Infringements :—

Registration	...	...	...	...	1
Notification of change of Master	...			—	
Certificates	...	...	...	...	2
Marking	...	...	...	...	1
Overcrowding	...	...	...	...	—
Separation of the Sexes	...	...	...	—
Cleanliness	...	...	...	...	3
Ventilation	...	...	...	...	—
Painting	...	...	...	...	5
Provision of Water Cask	...	...	...	—
Removal of Bilge Water	...	...	...	5	
Notification of Infectious Disease	...	...	...	—
Admittance of Inspector	...	...	...	—
Notices sent in respect of same	...	...	...	...	8
Legal proceedings taken	...	...	...	...	None
Penalties inflicted	...	...	...	...	None

Other steps taken to secure compliance with the Acts and

Regulations as regards such infringements :—

5 Removal of Bilge Water	...	...	Cautioned†
5 Painting	...	...	5 notices served
2 Certificate	...	...	Cautioned†
1 Marking	...	...	Cautioned†
3 Cleanliness	...	...	Cautioned†
3 Repairs	...	...	3 notices served
1 Not registered	...	...	...

Cases of Infections dealt with and measures of isolation

adopted	None
---------	-----	-----	-----	-----	-----	------

Detention of boats for cleansing and disinfection	None
---	-----	-----	------

† In these cases subsequent inspection showed that the defects had been remedied.

CATTLE SHIPS.

No. Inspected ..	...	...	...	...	...	435
,, Infringements reported	...	...	...	...	...	0
,, Ships re-inspected	...	...	...	...	...	213
,, Found clean on re-inspection	...	...	...	...	...	213

COMMON LODGING HOUSES.

No. registered under the Public Health Act	...	..	190
,, of day and night inspections	...	...	1100
Infringements of Byelaws—			
Failure to cleanse walls and ceilings	...	...	3
No. of informations laid in respect of infringements	...	...	3
,, Convictions	...	...	2
Amount of Fines and Costs	..	...	...17s. 0d.

One of the above informations was withdrawn.

STEPS TAKEN TO PREVENT SMOKE NUISANCE.

No. of Observations made	...	...	...	...	248
,, Notices served in respect of excessive black smoke	...	...	...	...	39
,, Informations laid in default of compliance with Order	...	...	...	...	1

In the case of this information, the Magistrates made an Order to abate the nuisance within 5 weeks, and to pay the costs of the proceedings.

DAIRIES, COWSHEDS AND MILKSHOPS.

No. of Milkshops on Register	...	...	...	...	33
,, Shippons with dairies attached	...	...	...	...	43
,, Inspections made	...	...	...	...	390
,, Notices served for defects	...	...	...	...	26
,, Notices complied with	...	...	...	...	26
,, Notices served <i>re</i> utensils and covering of milk vessels	...	...	...	...	23

Last year, in the case of one shippon, the work of cementing the walls was left over for a time. This work has since been completed.

In addition to written notices the occupiers of shippens and milkshops have from time to time been verbally cautioned with regard to the cleanliness of the premises, the cows, and the proper storage of milk.

FACTORY AND WORKSHOPS ACT.

WORKSHOPS.

No. on Register	...	...	...	...	...	...	175
„ of Visits made	...	...	...	...	...	...	1137
Workshops found incorrect	..	...	...	...	...	...	16
No. of Workrooms with dirty walls	...	...	...	...	...	...	26
„ „ „ ceilings	...	...	...	...	...	...	29
„ „ „ floors	...	...	...	...	...	...	4
„ „ „ lavatories	...	...	...	...	...	...	2
„ Workrooms not properly ventilated	..	...	...	...	...	...	3
„ Workrooms found overcrowded	...	...	...	...	...	...	0
„ Defective drains and water closets	...	...	...	...	...	...	20
„ Miscellaneous defects found	...	...	...	...	...	...	10
„ Notices issued on occupiers	...	...	...	...	...	...	20
„ Notices issued on owners	...	...	...	...	...	...	10
„ Notices not complied with	...	..	...	...	...	...	0
„ References to the Factory Inspector	...	...	...	...	...	...	14

BAKEHOUSES.

No. on Register	...	...	...	...	...	...	37
No. of Visits made	...	...	...	...	...	...	296
„ Bakehouses found dirty (walls and ceilings)	...	...	...	...	...	...	10
„ Notices issued for limewashing	...	...	...	...	...	...	10
„ Bakehouses limewashed without notice	...	...	...	...	...	...	74
„ Notices issued for defective drainage	...	...	...	...	...	...	2
„ Notices for defective walls and floors	...	...	...	...	...	...	3
„ Notices to repair defective ceilings	...	...	...	...	...	...	1
„ Notices to cleanse tables, utensils, etc.	...	...	...	...	...	...	3
„ Notices to clean areas	...	...	...	...	...	...	1
„ References to the Factory Inspector	...	...	...	...	...	...	2

CONFECTIONERY BAKEHOUSES.

No. on Register	...	...	...	...	...	29
No. of Visits made	...	...	...	...	...	175
No. Found dirty (walls and ceilings)...	...	...	...	...	...	9
No. of Notices issued for limewashing	..	...	...	...	...	9
„ Notices issued for defective drainage...	...	...	...	...	...	5
„ Notices issued to cleanse floors, utensils, etc.	...	...	...	...	...	4
„ Notices issued to remove drains	...	...	...	...	...	2

OUTWORKERS.

No. of Outworkers on Register	...	...	...	...	24
„ Visits made to houses of outworkers	...	...	...	...	58
„ Notices served for sanitary defects at houses of outworkers	...	...	...	...	2

[All the above notices were complied with.]

One case of Infectious Disease was notified at the house of an outworker. Work was suspended for the time being.

Outworkers employed in Bootle	{ Tailors or Tailoresses	6
for Liverpool firms.	{ Dressmakers	4
Outworkers employed in Liverpool	{ Tailors or Tailoresses	3
for Bootle firms.	{ Shirtmakers	11

FOOD INSPECTION.

No. of Foodshops visited	...	...	...	...	364
„ Seizures of unsound food	...	...	...	...	2
Amount of food seized during the year...	40 tons, 1 cwt., 1 qr., 15lbs.				
Information laid	...	...	...	...	1
Conviction	...	...	...	...	1
Amount of Fine and Costs	...	...	...	10s. 0d. and Costs.	
One Information was withdrawn.					

DISINFECTION.

No. of houses disinfected after fevers...	...	...	...	377
,, houses disinfected after Phthisis	...	...	...	86
,, houses disinfected after Measles	...	...	...	14
,, schools ,, ,, ,,	...	...	...	2
,, visits made to infected houses	...	...	...	427
,, re-visits ,, ,, ,,	...	...	...	750
,, houses cleaned in default of owners	...	...	...	11
,, houses disinfected from other causes than fevers	...	...	...	19

NOTE. . . Since June, 1903, all houses with a rental of eight shillings per week or under, have been cleaned (*i.e.* the walls stripped, and the ceilings whitened), by the Corporation, free of cost.

FILTHY HOUSES.

No. of Notices sent to cleanse the walls and ceilings of filthy houses	...	...	...	...	...	...	513
No. of Notices complied with...	...	...	...	...	...	...	513

LIST OF ARTICLES DISINFECTED.

Matrasses	...	...	...	...	...	...	613
Beds	...	...	...	...	...	...	408
Pillows	...	...	...	...	...	...	1413
Blankets	...	...	...	...	...	...	716
Quilts	...	...	...	...	...	...	545
Sheets	...	...	...	...	...	...	752
Carpets	...	...	...	...	...	...	244
Wearing Apparel	...	...	...	...	...	...	4825
Miscellaneous Articles	...	...	...	...	...	...	1998
Total...	...	...	...	...	...	...	11567

These figures do not include the ambulance bedding, which is disinfected after each case (1 bed, 1 pillow, and 3 blankets).

FLUSHING.

The flushing gang consists of two Corporation workmen, and one Liverpool waterman.

No. of private houses at which drains were flushed...	...	18,766
,, of passage sewers flushed...	... ..	1,458
,, of public buildings at which drains were flushed	...	30

Forty-two ^{*} days out of the year were devoted to special premises in which cases of fever had occurred.

The drains at the Bootle Borough Hospital were flushed 18 times during the year.

The amount of water, used independent of salt water supplied from the Corporation salt water hydrants one-half day in each week, was 3,307,430 gallons.

SUMMARY OF FOOD AND DRUG SAMPLES, YEAR 1904.

	Total Number of Samples.	Number Genuine.	Number Adulter- ated.	Prosecu- tion.	Amount of Fines.	REMARKS.
Butter	44	44	—	—	—	—
Milk	63	33	30	15	£14 2 0	One dismissed ; 13 not had enough to prosecute, warned by M.O.H. and further samples taken ; one dismissed on payment of costs.
Cheese	14	14	—	—	—	—
Coffee	9	6	3	1	0 5 0	Of the two remaining samples adulterated one was protected by label, and there was no prosecution in the other case on the advice of the Public Analyst.
Lard	2	2	—	—	—	—
Beer	3	3	—	—	—	—
Cream	4	4	—	—	—	—
Zinc Ointment	2	2	—	—	—	—
Linseed Oil	2	2	—	—	—	—
Borax and Honey... ..	2	2	—	—	—	—
Vinegar	10	9	1	—	—	The Public Analyst advised no prosecution.
Mixed Pickles	1	1	—	—	—	—
Camphorated Oil	3	3	—	—	—	—
Olive Oil	1	1	—	—	—	—
Dripping	1	1	—	—	—	—
White Pepper	5	5	—	—	—	—
Syrup	1	1	—	—	—	—
Cream of Tartar	2	2	—	—	—	—
Brandy	9	6	3	—	—	One sample was of doubtful quality, in the other 2 cases prosecution was not advised by the Public Analyst.
Treacle	1	1	—	—	—	—
Fruit Wine	1	1	—	—	—	—
Arrowroot	3	3	—	—	—	—
Gooseberry Jam	1	1	—	—	—	—
Black Puddings	1	1	—	—	—	—
Worcester Sauce	1	1	—	—	—	—
Orange Wine	1	1	—	—	—	—
Glycerine	1	1	—	—	—	—
Mace	1	1	—	—	—	—
Sausages	1	1	—	—	—	—
Flour	1	1	—	—	—	—
Mustard	1	1	—	—	—	—
Totals	192	155	37	16	£14 7 0	

NOTE—Several additional samples were taken, but were not sent to the Public Analyst, viz. :—Milk 26, Arrowroot 1.

TABLE 1.—COUNTY BOROUGH OF BOOLE.
FOR WHOLE DISTRICT.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.						DEATHS IN PUBLIC INSTI- TIONS IN THE DISTRICT.	Deaths of Non- residents registered in District.	Deaths of Residents registered beyond District.	DEATHS AT ALL AGES. NETT.	
		Number.	Rate.*	DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES, TOTAL.								
				Number.	Rate per 1,000 Births registered.	Number.	Rate.*	Number.	Rate.*					
1	2	3	4	5	6	7	8	9	10	11	12	13		
1894.	52,060	1,660	31·8	262	157	917	17·6	122	52	86	951	18·2		
1895.	52,940	1,823	34·4	335	183	1,075	20·3	117	66	101	1,110	20·9		
1896.	53,710	1,759	32·7	324	184	1,026	19·1	114	58	79	1,047	19·4		
1897.	54,630	1,748	31·9	349	199	1,037	18·9	95	54	74	1,057	19·1		
1898.	55,550	1,772	31·8	329	183	1,005	18·0	113	55	105	1,055	18·9		
1899.	56,500	1,809	32·0	337	186	1,164	20·6	96	57	105	1,212	21·4		
1900.	57,450	1,827	31·8	373	204	1,156	20·1	91	35	120	1,241	21·5		
1901.	58,556	1,837	31·4	337	183	965	16·4	82	34	123	1,054	18·0		
1902.	60,000	1,949	32·4	302	154	1,043	17·0	101	37	133	1,139	18·9		
1903.	60,800	2,010	33·5	325	161	1,015	16·6	113	39	132	1,108	18·2		
Averages for years 1894-1903.	56,219	1,819	32·3	327	179	1,040	18·4	104	48	105	1,097	19·4		
1904.	62,000	1,918	30·9	346	180	1,051	16·9	85	32	135	1,154	18·6		

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

Total Population at all ages, 58,556; number of inhabited houses, 10,044; average number of persons per house, 5·8—at census of 1901.
The Union Workhouse is not within the District.

TABLE 2.—COUNTY BOROUGH OF BOOTLE.
CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1904.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH LOCALITY.						NO. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.					
	At all Ages.	At Ages—Years.					1 H* Derby Ward.	2 Stanley Ward.	3 Mersey Ward.	4 Knowsley Ward.	5 Linacre Ward.	6 Totals.	1 H* Derby Ward.	2 Stanley Ward.	3 Mersey Ward.	4 Knowsley Ward.	5 Linacre Ward.	6 Totals.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.												
Small-pox ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diphtheria—Membranous Croup ..	48	2	15	29	2	—	8	6	11	13	10	48	7	5	8	8	7	35†
Erysipelas ...	37	—	—	1	5	27	2	1	15	13	6	37	—	—	—	—	—	—
Scarlet Fever ..	269	1	76	187	2	3	82	62	44	37	44	269	64	41	35	33	28	201
Typhus Fever...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever ...	22	—	2	4	7	9	2	3	5	5	7	22	3	2	4	4	4	17**
Relapsing Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Continued Fever ...	1	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Puerperal Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phthisis ...	40	—	—	9	7	23	1	3	17	11	8	40	—	—	—	—	—	—
Totals ...	417	3	93	231	23	62	95	76	92	79	75	416	74	48	47	45	39	253

*H.—The Corporation Hospital for Infectious Diseases, Linacre, is situated in Derby Ward.

**Four of these cases were not Typhoid. †Three of these cases were not Diphtheria.

TABLE NO. 3.—COUNTY BOROUGH OF BOOTLE.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1904.

CAUSES OF DEATH.	DEATHS IN WHOLE DISTRICT AT SUBJOINED AGES.							DEATHS IN LOCALITIES (AT ALL AGES).					DEATHS IN PUBLIC INSTITUTIONS.	
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Derby Ward.	Stanley Ward.	Mersey Ward.	Knowsley Ward.	Linacre Ward.		
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	Bootle Borough Hospital with non-residents	60
Measles	48	9	39	—	—	—	—	8	2	17	13	8		
Scarlet Fever	13	—	9	4	—	—	—	5	2	—	3	3		
Whooping Cough	41	15	24	2	—	—	—	4	1	17	9	10	Bootle Borough Hospital without non residents	32
Diphtheria and Membranous Croup	16	2	7	7	—	—	—	4	1	5	4	2		
Croup	3	1	1	1	—	—	—	—	1	—	2	—		
Fever { Typhus	—	—	—	—	—	—	—	—	—	—	—	—	Inf. Hospital with non-residents	25
Enteric	2	—	—	—	—	2	—	1	—	—	—	1		
Other Continued	—	—	—	—	—	—	—	—	—	—	—	—		
Epidemic Influenza	5	—	2	—	1	1	1	3	—	1	1	—	Inf. Hospital without non-residents	21
Cholera	—	—	—	—	—	—	—	—	—	—	—	—		
Plague	—	—	—	—	—	—	—	—	—	—	—	—		
Diarrhœa	109	85	23	—	—	1	—	12	16	29	26	26	Walton and Mill Rd. Workhouses	135
Enteritis	36	23	4	2	—	5	2	9	10	7	5	5		
Puerperal Fever	—	—	—	—	—	—	—	—	—	—	—	—		
Erysipelas	1	—	—	—	—	—	1	—	—	—	—	1	Walton and Mill Rd. Workhouses	135
Other Septic Diseases	7	4	1	1	—	1	—	—	1	4	1	1		
Phthisis	100	—	3	5	21	69	2	15	12	31	31	11		
Other Tubercular Diseases	22	5	5	8	—	4	—	5	3	5	8	1	Walton and Mill Rd. Workhouses	135
Cancer, Malignant Disease	39	—	1	—	—	27	11	8	8	8	10	5		
Bronchitis	117	31	21	1	2	32	30	20	6	41	30	20		
Pneumonia	96	18	41	5	2	24	6	18	11	25	22	20	Walton and Mill Rd. Workhouses	135
Pleurisy	1	—	—	—	—	1	—	1	—	—	—	—		
Other Diseases of Respiratory Organs	24	10	7	—	—	6	1	5	4	6	3	6		
Alcoholism	—	—	—	—	—	—	—	—	—	—	—	—	Walton and Mill Rd. Workhouses	135
Cirrhosis of Liver }	7	—	—	—	—	7	—	2	—	3	1	1		
Venereal Diseases	—	—	—	—	—	—	—	—	—	—	—	—		
Premature Birth	38	38	—	—	—	—	—	9	4	9	14	2	Walton and Mill Rd. Workhouses	135
Diseases and Accidents of Parturition	5	1	—	—	1	3	—	1	1	—	2	1		
Heart Diseases	50	—	—	3	1	20	26	4	13	17	11	5		
Accidents	32	1	6	8	—	14	3	5	2	13	6	6	Walton and Mill Rd. Workhouses	135
Suicides	1	—	—	—	—	1	—	—	—	1	—	—		
Senile Decay	48	—	—	—	—	3	45	11	10	11	9	7		
Not Certified	39	14	6	2	2	11	4	2	6	17	9	5	Walton and Mill Rd. Workhouses	135
All other Causes	254	89	27	9	5	79	45	44	40	77	52	41		
All causes	1154	346	227	58	35	311	177	196	154	344	272	188		220

There were 63 Inquests held during the year.

1904.

LOCALITIES.	JAN.		FEB.	MAR.	APRIL	MAY.	JUNE.	JULY.	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL.			
	Un- der 1	1 up.												Un- der 1	1 up.		
Brought forward	8	37	13	40	4	23	12	28	8	19	13	22	7	28	136	333	=469
Dryden Street	1	...	...	...	...	1	...	...	...	1	1	3	5	8
Duncan Street	1	...	...	...	...	...	...	...	...	1	2	3
Dundas Street
Dyer Street
Earl Road
Effingham Street	1	1	2
Elizabeth Street
Elm Street	1	...	...	...	...	...	...	...	...	2	3	5
Emley Street	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1	4	4
Ensor Street	1	1
Ensor Place
Essex Street
Everton View
Everton View
Exeter Road	...	1	...	1	...	...	...	...	...	...	...	...	...	...	1	3	4
Falconer Street
Fernhill Road	1	...	...	...	...	...	...	...	1	1	1
First Street	1	...	...
Flint Street	1	...	...	...	...	...	...	...	...	...	...
Florida Street	1	...	...	...	...	...	1	...	2	4	6
Formby Place	3	...	3
Garden Lane
Garfield Street	...	1	...	...	...	1	...	...	...	1	...	...	...	1	1	6	7
Globe Road	3	3
Gloucester Road	1	...	...	...	...	...	...	...	...	...	...
Gloucester Street	1	...	1	...	...	...	...	...	2	...	1	4	8	12
Gonville Road
Gower Street	1	...	...	...	...	...	...	...	...	...	5	5
Granite Road
Gray Street	1	...	...	...	...	...	...	...	...	...	...	...
Grimshaw Street	6	6
Grove Street	1	1
Grove Street	3	3
Carried forward	9	39	13	43	6	28	16	34	10	24	11	32	14	34	29	33	546

1904.

LOCALITIES.	JAN.		FEB.		MAR.		APRIL.		MAY.		JUNE.		JULY.		AUG.		SEP.		OCT.		NOV.		DEC.		TOTAL.	
	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up	Un- der 1	up
Brought forward	9	47	18	53	8	30	18	43	12	31	12	38	14	36	41	43	19	37	13	29	14	35	9	45	187	470
Kirby Place	1	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	2	4
Knowsley Road	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	2	1	3	1	..	1	1	..	1	3	11
Laburnum Place	1	..	..	..	..	..	..	..	..	1	..	..	..	..	2	2
Lamb's Terrace	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	2
Langdalo Street
Linacre Lane	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Lincoln Street	1	..	1	..	1	1	..	..	..	..	..	1	1	..	..	1	..	..	..	..	..	3	3
Litherland Road	..	1	..	..	..	1	..	..	..	1	..	..	1	1	1	1	2	..	1	1	2	..	..	..	5	8
Longfellow Street	1	1	..	..	..	..	..	..	..	1	1
Lydiat Road	1	1	1	1	..	..	..	..	4	..	..	..	..	..	..	1	1
Lycens Street	4	..	2	1	..	1	1	1	..	1	1	..	3	1	..	..	..	1	1	..	2	6	14
Lyster Road
Malcolm Street	1	1	..	..	..	..	..	..	..	1	..	1	1
Malta Road	1	..	..	..	..	..	..	..	..	..	..	1	1
Mann Street	..	1	..	..	..	..	1	..	..	1	..	..	2	2	..	2	..	..	..	..	1	..	..	..	3	7
Markfield Road	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2
Marsh Lane	..	1	1	2	..	1	1	1	1	1	..	1	1	1	1	1	1	1	1	..	1	..	..	1	5	11
Matthew Street	1	..	1	1	1	1	2	1	..	..	1	1	2	..	..	1	1	..	..	..	..	4	10
May Street	1	..	..	..	..	..	..	..	..	..	..	1	1
Melling Road	1	2	..	..	..	..	..	..	1	..	..	..	1	..	..	..	2	1	8	9
Merton Road	..	1	..	..	..	1	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1
Merton Grove	1	..	..	..	..	1	..	..	1	1
Mildmay Road	1	1
Mill Lane	1	1	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1
Miller's Bridge	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	1	1
Milton Street	1	1	..	..	..	..	..	..	..	..	1	1
Miranda Road	1	..	1	..	2	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	3
Molyneux Street	1	..	1	..	1	1	2	..	1	1	1	3	1	..	..	..	1	5	6
Monmouth Road	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	10
Moore Street	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	4
Morningside Road
Carried forward	10	55	20	67	9	40	24	52	15	41	14	40	20	46	48	60	27	48	21	35	17	42	9	53	234	580
																										-814

1904.

LOCALITIES.	JAN.		FEB.		MAR.		APRIL.		MAY.		JUNE.		JULY.		AUG.		SEPT.		OCT.		NOV.		DEC.		TOTAL.		
	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	Un- der 1	1 up.	
Brought forward	10	55	20	67	9	40	24	52	15	41	14	40	20	46	48	60	27	46	21	35	17	42	9	53	234	580	=814
Napier Street
Nelson Street
Nevada Street
Norfolk Street
Norton Street
New Street
Oak Street
Olivia Street
Oregon Street
Orlando Street
Oriel Road
Oxford Road
Pacific Road
Park Grove
Park Place
Park Street
Peel Road..
Pembroke Road..
Percy Street
Pine Grove
Pleasant Grove
Pleasant Place
Pleasant Street
Pleasant View
Pope Street
Princes Street
Prior Street
Queen's Road
Raleigh Street
Recreation Street
Regent Road
Carried forward	11	62	23	72	13	45	27	60	18	44	14	45	25	52	63	72	32	54	24	46	19	49	9	58	278	661	-939

1904.

LOCALITIES.	JAN.		FEB.		MAR.		APRIL.		MAY.		JUNE.		JULY.		AUG.		SEPT.		OCT.		NOV.		DEC.		TOTAL.		
	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	Un- der 1	1 and up.	
Brought forward	13	75	31	85	16	55	30	77	22	50	17	55	36	63	81	81	37	66	28	57	23	54	10	73	344	793	1137
Waterworks Street	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...
Waverley Street
Well Lane
Wm. Henry Street	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Windsor Place	1	...	...	...	...	...	...	...	1	...
Wordsworth Street	...	1	...	1	...	...	1	...	...	1	...	1	...	1	1	...	...	...	...	...	...	...	...	...	1	6	7
Worcester Road	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	2	3
Wye Street
York Street
Total	13	79	31	86	16	56	30	80	22	51	17	57	36	64	83	82	37	67	28	57	23	54	10	73	346	808	1154

BOROUGH OF BOOTLE.

ESTIMATED POPULATION, 60,800. (1903).

Birth Rate (blue) } Per 1000 of the estimated
Death Rate (black) } Population.
Number of Deaths of Infants under one } in each of the
year out of every 1000 born (green) } Wards of the
Estimated Population per acre excluding } Borough during 1904.
Dock Quays (red) }

DERBY WARD.
ESTIMATED POP. 11887.

31.5
18.4
152
26

STANLEY WARD.
ESTIMATED POP. 11194.

23.5
13.7
162
47

LINACRE WARD.
ESTIMATED POP. 13398.

31.9
14.0
158
66

KNOWSLEY WARD.
ESTIMATED POP. 11588.

36.5
23.4
183
65

MERSEY WARD.
ESTIMATED POP. 13982.

30.5
24.6
234
80

—1904—

Birth rate for whole Borough 30.9
 Death rate..... do..... 18.6
 Infant Mortality 180

